

ORDINANCE NO. 7566

AN ORDINANCE AMENDING CHAPTERS 10-5, 10-5.5, 10-6, 10-7, 10-8, 10-9, 10-9.5, 10-10, B.R.C. 1981, AND ADOPTING BY REFERENCE, WITH AMENDMENTS, THE 2006 INTERNATIONAL BUILDING, RESIDENTIAL, FIRE, MECHANICAL, FUEL GAS, ENERGY CONSERVATION, AND PLUMBING CODES, AND THE 2005 NATIONAL ELECTRICAL CODE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER,
COLORADO:

Section 1. Chapter 10-5, B.R.C. 1981, is amended to read:

CHAPTER 10-5, BUILDING CODE

Adopted by Ordinance No. 4636. Amended by Ordinance Nos. 4722, 6015, 7304. Derived from Ordinance Nos. 4322, 4500.

10-5-1 Legislative Intent.

The purpose of this chapter is to protect the public health and safety by regulating the construction, alteration, repair, wrecking, and moving of structures in the city. The city council hereby adopts the ~~2003~~ 2006 edition of the *International Building Code* and the 1997 edition of the *Uniform Code for the Abatement of Dangerous Buildings* with certain amendments and deletions thereto found to be in the best interests of the residents of the city.

10-5-2 Adoption of International Building Code with Modifications.

(a) The ~~2003~~ 2006 edition of the *International Building Code* of the International Code Council is hereby adopted by reference as the City of Boulder Building Code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) The Appendix chapters I, "PATIO COVERS" and J, "GRADING," and sections contained therein are adopted.

(c) Section 101.1, "Title," is repealed and reenacted to read:

101.1 Title. These regulations shall be known as the Building Code of the City of Boulder or building code, hereinafter referred to as "this code." Where other codes are referenced in this code those code provisions shall not apply unless otherwise adopted by the City of Boulder. Where reference is made anywhere in this code to the "Department" or "Department of Building Safety" it shall have the same meaning as the "Division of Building Safety."

(d) Section 101.4, "Referenced codes," is repealed and reenacted to read:

Chapter 1, "Administration," in this code shall also apply and serve as Chapter 1, "Administration," in the following codes adopted by reference in this title: Chapter 10-5.5, International Residential Code; Chapter 10-9, International Mechanical Code; Chapter 10-9.5, International Fuel Gas Code; and Chapter 10-10, International Plumbing Code, B.R.C. 1981. ~~Chapter 1, "Administration," in this code shall also apply and serve as Article 80 of the National Electrical Code (NFPA 70) adopted by reference in Chapter 10-6, B.R.C. 1981.~~ Where administrative provisions are expressly adopted, or adopted in an altered form, for use in those chapters, they shall supersede any conflicting provisions of the administrative provisions of this chapter.

The other codes listed in Sections 101.4.1 through 101.4.7 and referenced elsewhere in this code shall be considered as part of the requirements of this code as applicable.

~~(e) Section 101.4.1, "Electrical," is repealed and reenacted to read:~~

~~101.4.1 Electrical. The provisions of the National Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings, and appurtenances thereto.~~

~~(f)(e)~~ Section 101.4.5, "Property Maintenance," is repealed.

~~(g)(f)~~ Section 103, "Department of Building Safety," is repealed and reenacted to read:

Section 103

"Division of Building Safety" means the administrative unit established by the city manager or the manager's delegates, and the personnel assigned to the unit by the manager.

~~(h)(g)~~ 104.8, "Liability," is repealed and reenacted to read:

Liability

No employee of the city who enforces, attempts to enforce, or is authorized to enforce this code renders him or herself or the city liable to third parties for any damage or injury to the person or property of such third parties as a result of the enforcement or non-enforcement of this code. The city assumes no duty of care by virtue of the adoption of this code. No person is justified in relying upon the approval of a plan, the results of an inspection, or the issuance of a certificate of inspection or occupancy, and such approvals, inspections, and certificates are not a guarantee that the plan or work so approved, inspected, or certificated in fact complies with all the requirements of this code. It is the duty of the person owning, controlling, or constructing any building or structure to insure that the work is done in accordance with the requirements of this code, and it is such persons and not the city who are responsible for damages caused by negligent breach of such duty.

(i)-(h) Section 105.2, "Work exempt from permit," is repealed and reenacted to read:

105.2 Work Exempt from permit. Exemptions from the building permit requirements of this code do not grant authorization for any work to be done in violation of the requirements of this code or any other laws or ordinances of the city. Building permits shall not be required for the following:

General:

1. One story detached non-conditioned buildings accessory to a residential structure and not more than 80 square feet in area or ten feet in height and not being served by any electrical, mechanical or plumbing fixtures or systems.
2. Fences not over three feet high.
3. Retaining walls which are not over 3 feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II, or III-A liquids.
4. Sidewalks and driveways not more than thirty inches above grade and not over any basement or story below and which are not part of an accessible route.
5. Painting, papering, tiling, carpeting, cabinets, countertops, and similar finish work.
6. Temporary motion picture, television, and theater stage sets and scenery.
7. Prefabricated swimming pools accessory to a Group R-3 occupancy which are less than 24 inches deep, do not exceed 5,000 gallons, and are installed entirely above ground.
8. Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
9. Swings and other playground equipment accessory to detached one-and two-family dwellings.
10. Window awnings in Group R and Group U occupancies supported entirely by an exterior wall and which do not project more than 54 inches from the exterior wall.
11. Moveable cases, counters and partitions not over 5 feet 9 inches in height.

Electrical:

Minor repair and maintenance work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles, radio and television transmitting stations, temporary testing systems for the testing or servicing of electrical systems or apparatus and those items in Article 90.2 (B) of the electrical code.

Gas:

1. Portable heating appliances.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance, portable cooling unit, portable evaporative cooler or portable ventilation equipment.
2. Steam, hot, or chilled water piping within any heating or cooling equipment regulated by this code.
3. Replacement of any part which does not alter an approval or listing or make any appliance or equipment unsafe.
4. Self contained refrigeration system containing ten pounds (4.54 kg) or less of refrigerant and actuated by motors of one horsepower (746 W) or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste, or vent pipe provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the replacement of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves or pipes.

~~(j)~~(i) A paragraph is added to Section 105.3.1, "Action on application," to read:

No building permit shall be issued until approved by every department of the city or Boulder County that has applicable regulations, including, without limitation, the following departments: building, flood control, utilities, wastewater, health, fire, engineering, zoning, planning, parks, and city clerk.

~~(k)~~(i) Section 105.3.2, "Time limitation of application," is repealed and reenacted to read:

105.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned one hundred eighty days after the date of filing unless the permit has been issued; except that the building official is authorized to grant not more than two extensions of time for additional periods not exceeding ninety days each. The extension shall be requested in writing before the expiration date and justifiable cause demonstrated.

~~(k)~~(k) Section 105.5, "Expiration," is repealed and reenacted to read:

Section 105.5 Expiration. Every permit issued by the building official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not completed and approved for occupancy within three years from the date the permit was issued. Separate permits granting authorization to install, repair, energize, or use any electrical, mechanical or plumbing fixture, system or equipment shall expire twelve months after issuance, at which time a new permit will be required. In order to renew an expired permit, the applicant shall submit a new permit application with the required submittal documents demonstrating compliance to the code in effect at the time the new application is received. Work that was authorized, completed and approved under the previous permit may be considered as meeting current codes if the expiration period is not more than one year and all systems, equipment and structural elements have been adequately protected from the weather. The permit fee may be prorated based on the amount of work completed and approved under the previous permit. The plan review fee shall be paid in full based on the current fee schedule.

~~(m)~~(l) Section 106.1, "Submittal Documents," is repealed and reenacted to read:

106.1 Submittal Documents. An applicant for a building permit shall submit a minimum of two sets of plans and specifications with each application when required by the building official for enforcement of any provisions of this code.

(1) An architect registered in the State of Colorado shall prepare the plans and specifications for and observe the construction of all buildings except for the following:

- (a) Detached dwellings intended solely for private use, occupancy, or resale, including accessory buildings commonly associated with the same;
- (b) Farm buildings and buildings for the marketing, storage, or processing of farm products;
- (c) Minor additions, alterations, or repairs to the foregoing buildings that do not cause the completed buildings to exceed the applicable limitations herein set forth; or
- (d) Non-structural alterations of any nature to any building, if such alterations do not affect the safety of the building.

(2) Drawings and specifications for footings and foundations shall bear the seal and signature of a professional engineer or architect registered in Colorado and be designed as specified in chapter 18 of the building code for all occupancies except those classified as R-3 and U, which shall be designed as specified in Chapter 4 of the residential code.

Exceptions:

- (a) Detached structures not intended for human occupancy;
- (b) Additions to existing detached dwellings not exceeding 150 square feet.

~~(n)-(m)~~ Section 108.3, "Building permit valuations," is repealed and reenacted to read:

108.3 Building permit valuation. Fees for permits shall be as set forth in Chapter 4-20, B.R.C. 1981, and the valuation for buildings shall be determined by the City of Boulder Valuation Data Table for Building Permit fees.

~~(e)-(n)~~ Section 112, "Board of Appeals," is repealed and reenacted to read:

Section 112 Appeals and Advisory Opinions.

(a) A person refused a building permit or refused approval of work done under a permit on the grounds that the proposed or completed construction fails to comply with this code or any other city building code other than the fire code may appeal the decision to the board of zoning adjustment and building appeals on the ground that:

1. The denial was based on an erroneous interpretation of such code by the city manager;
2. The city manager has erroneously failed to approve an alternate material or method pursuant to Section 104.11 prior to its installation or use. In determining such an appeal the board shall apply the standards of Section 104.11, but the board shall have no jurisdiction to consider if a material or method expressly prohibited by this code is an acceptable alternative; or
3. The city manager has erroneously failed to grant a modification pursuant to Section 104.10 prior to its installation. In determining such an appeal the board shall apply the standards of Section 104.10.

The city manager has the burden of proof under paragraph 1. The appellant has the burden of proof on appeals brought pursuant to paragraphs 2 and 3. The board shall determine the appeal and decide whether the city manager's interpretation or application of such code was correct or in error at a hearing under the procedures described by Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981.

(b) Any person whose building permit has been suspended or revoked may appeal such action by the city manager to the board of building appeals on the ground that the suspension or revocation was based on an error in fact or an erroneous application of this code to the facts. The city manager has the burden of proving the facts upon which the manager relies at such a hearing.

(c) An applicant for an appeal to the board of appeals shall pay the fee prescribed by Section 4-20-47, "Zoning Adjustment and Building Appeals Filing Fees," B.R.C. 1981.

(d) The city manager may apply to the board of appeals, without fee, for an advisory opinion concerning alternative methods, applicability of specific requirements, approval of equipment and materials, and granting of special permission as contemplated in Sections 104.10 or 104.11 of the Building Code.

(e) The board of building appeals has no authority to interpret Chapter 1 (the administrative requirements) and Chapter 34 of this code except as expressly provided in this section, nor, because this code sets minimum standards, to waive any requirement of this code.

~~(p)~~ (o) Section 113, "Violations," is repealed and reenacted to read:

Violations

Section 113. No person shall perform grading, erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy, or maintain any building or structure in the city or cause or permit the same to be done, contrary to or in violation of any of the provisions of the building code. Violations of the building code are punishable as provided in Section 5-2-4, "General Penalties," B.R.C. 1981.

~~(q)~~ (p) The definition of "Building Official" in Section 202 is repealed and
and reenacted to read:

BUILDING OFFICIAL is the city manager.

~~(r)~~ (q) Section 202, "Definitions," is amended by the addition of the following new definition:

PERMIT ISSUANCE is the date that the approved building permit is paid for and received back from the city manager by the applicant or a representative of the applicant.

~~(s)~~ (r) A paragraph is added to Section (F) 903.2, "Where required," to read:

The maximum fire area without an automatic sprinkler system shall be determined by Section 903.1 of the fire code.

~~(t) Section 1009.5.2, "Outdoor conditions," is repealed and reenacted to read:~~

~~1009.5.2 Outdoor conditions. Outdoor stairways and outdoor approaches to stairways shall be designed so that water will not accumulate on walking surfaces. In other than group R-3 and U Occupancies, treads, platforms and landings that are part of exterior stairway serving as the only means of egress from the building or occupancy shall be protected to prevent the accumulation of snow or ice. The building official may approve a snow and ice management plan where other protective measures are not feasible.~~

(s) Section 1007.3, "Exit Stairways", is repealed and reenacted to read:

1007.3 Exit Stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. The area of refuge is not required at unenclosed interior exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at exit stairways in buildings or facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1025.6.2.
7. The areas of refuge are not required in Group R-2 occupancies.

~~(u)~~ (t) Section 1505.1, "General," is repealed and reenacted to read:

1505.1 General. All roof assemblies and roof coverings required to be listed by this section shall be tested in accordance with ASTM Standard E 108 or UL Standard 790. Class A roofs and the exceptions noted in 1505.3 for class B roofs as described in this chapter 15 are the only roof assemblies and roof coverings allowed to be installed on any new or existing building within the city of Boulder. Wood shakes, wood shingles and wood roof covering materials are prohibited except as provided in Section 10-5-5, "Wood Roof Covering Materials Prohibited," B.R.C. 1981, for certain minimal repairs.

~~(v)~~ (u) Section 1608.1, "General," is repealed and reenacted to read:

1608.1 General. The minimum roof snow load shall be thirty pounds per square foot, but the design roof load shall not be less than that determined by Section 1607.

~~(w)~~ (v) Section 1609.3.1, "Wind speed conversion," is repealed and reenacted to read:

1609.3.1 Wind velocities. In Table 1609.3.1, the three second gust wind speed for the city shall be 110 miles per hour.

~~(x)~~ (w) Sections 1612.3, 1612.4, and 1612.5 are repealed.

~~(y)~~ A new section 3020, "Safety Code for Elevators and Conveying Systems," is added to Chapter 30, "Elevators and Conveying Systems," of the building code, to read:

Section 3020.

~~(a) The city manager may grant variances to specific requirements of the Safety Code for Elevators and Escalators which cannot be met without altering the design of the device if the manager finds all of the following facts:~~

~~(1) The device has passed its safety test;~~

~~(2) The device is properly maintained and in good working condition;~~

~~(3) The device functions at least as safely as its original design permits;~~

~~(4) For devices installed after March 1, 1985, and not altered or modified thereafter, the device meets all of the requirements of the ANSI/ASME Safety Code for Elevators and Escalators in effect at the time of installation; and~~

~~(5) Undue hardship and unreasonable interference with the normal use and occupancy of the building would result from strict enforcement, this burden outweighs the gains in safety from full compliance, and the device has a demonstrated record of safety.~~

~~(b) Permits required. No person shall install any elevator, moving walk, escalator, dumbwaiter, material lift, wheelchair lift, or stairway lift, or make a major alteration to any existing elevator, moving walk, escalator, dumbwaiter, material lift, wheelchair lift, or stairway lift without first obtaining a permit for such installation or alteration from the city manager and paying the building permit fee set forth in Section 4-20-4, "Building Contractor License and Building Permit Fees," B.R.C. 1981. Permits are not required for maintenance.~~

~~(c) Certificates of Inspection required. No person shall operate any elevator, moving walk, escalator, dumbwaiter, material lift, wheelchair lift, or stairway lift without a current Certificate of Inspection issued by the city manager. Such certificate shall be issued upon payment of the fee prescribed in Section 4-20-48, "Elevator, Dumbwaiter, Materials Lift, Escalator, Moving Walk, Wheelchair Lift, and Stairway Lift Certificate Fees," B.R.C. 1981, and the presentation of a valid inspection report indicating that the conveyance is safe and that the inspections and tests have been performed in accordance with the ANSI code. The certificate is valid for one year after issuance. No certificate may be issued if the conveyance is posted as unsafe pursuant to subsection (e) below.~~

~~Exception: Certificates of inspection are not required for conveyances within an individual dwelling unit.~~

~~(d) (1) General. The owner shall be responsible for the safe operation and maintenance of each conveyance device as described above and shall cause periodic inspections, tests and maintenance to be made on such conveyances as required in this section;~~

~~(2) Periodic Inspections and Test. Routine and periodic inspections and tests shall be made as required by Part X of the ANSI code;~~

~~(3) Alterations, Repairs and Maintenance. Alterations, repairs and maintenance shall be made as required by Part XII of the ANSI code;~~

~~(4) Inspection Costs. All costs of such inspections and tests shall be paid by the owner; and~~

~~(5) Inspection Reports. After each required inspection, a full and correct report of such inspection shall be filed with the building official.~~

~~(e) When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and building official a full and true report of such inspection and such unsafe condition. If the building official finds that the unsafe condition endangers human life, the building official shall cause to be placed on such conveyance device, in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the building official. The building official shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance which are necessary to render it safe and may order the operation thereof discontinued until the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only by the building official when satisfied that the unsafe conditions have been corrected.~~

~~(f) Rule 3020.3h, "Installation Below Ground," is repealed and reenacted to read:~~

~~Rule 3020.3h Installation Below Ground~~

~~Cylinders installed below ground shall be provided with protection from corrosion by a protective casing immune to galvanic or electrolytic action, salt water, and other known underground conditions, completely surrounding the exterior surfaces of the cylinder. If the space between the protective casing and cylinder is empty, the casing must be designed to withstand a static head of water from ground level to the bottom of the casing based on manufacture's ratings of the material used.~~

~~Rule 3020.3h Installation Below Ground~~

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~~(z) (y) The effective date for use of the performance based provisions of Section 3410, "Compliance Alternatives," is January 1, 1959.~~

~~(aa) New chapters 97 and 98 are added to the *Building Code* to read:~~

~~Section 9702.4. Stabilizers. When required, stabilizing agents shall be emulsified asphalt, Portland cement, lime or other approved additives. The stabilizing agent shall be uniformly mixed with the soil in amounts sufficient to provide the required resistance to absorption.~~

~~Section 9703. Sampling and Testing. Each of the tests prescribed in this Chapter shall be applied to five sample units selected at random from each 5000 units or fraction thereof.~~

~~Section 9703.1. Identification. Each specimen shall be so marked that it may be identified at any time. Marking shall not cover more than five percent of the superficial area of the specimen.~~

~~Section 9703.2. Moisture Content. The moisture content of unstabilized units shall be not more than four percent by weight. Moisture content shall be determined by using the following procedure:~~

- ~~1. Obtain weight of each specimen immediately upon receiving.~~
- ~~2. Dry all specimens to constant weight in a ventilated oven at 212EF. to 239EF. (100EC. to 115 EC.) and obtain dry weight.~~
- ~~3. Calculate moisture content as a percentage of the initial dry weight.~~

~~Section 9703.4. Absorption. A dried four inch cube cut from a sample unit shall absorb not more than two and one half percent moisture by weight when placed upon a constantly water saturated porous surface for seven days. A unit which meets this specification shall be considered "stabilized." Absorption shall be determined by using the following procedures:~~

- ~~1. Dry specimen to a constant weight in a ventilated oven at 212 EF. to 239 EF. (100EC. to 115 C.).~~
- ~~2. Place specimen on a constantly water saturated porous surface for seven days. Weigh specimen.~~
- ~~3. Calculate absorption as a percentage of the initial dry weight.~~

~~Section 9703.5. Shrinkage Cracks. No units shall contain more than three shrinkage cracks, and no shrinkage crack shall exceed three inches in length or one eighth inch width.~~

~~Section 9703.6. Compressive Strength. The units shall have an average compressive strength of three hundred pounds per square inch. One sample out of five may have a compressive strength of not less than two hundred fifty pounds per square inch. The units shall be tested according to the following procedure:~~

- ~~1. Dry the specimens at a temperature of 85EF. +/- 15EF. (29EC. +/- 9EC.) in an atmosphere having a relative humidity of not more than fifty percent. Weigh the specimens at one day intervals until constant weight is attained.~~

2. Test the specimens in the position in which the earthen masonry unit is designed to be used, and bed on and cap with a felt pad not less than one eighth inch (3.2 mm) nor more than one quarter inch (6.4 mm) in thickness.

3. The specimens may be suitably capped with calcined gypsum mortar or the bearing surfaces of the tile may be planed or rubbed smooth and true. When calcined gypsum is used for capping, conduct the test after the capping has set and the specimen has been dried to constant weight in accordance with Item 1 of this section.

4. The loading head shall completely cover the bearing area of the specimen and the applied load shall be transmitted through a spherical bearing block of proper design. The speed of the moving head of the testing machine shall not be more than 0.05 inch (1.27 mm) per minute.

5. Calculate the average compressive strength of the specimens tested and report this as the compressive strength of the block.

Section 9703.7. Modulus of Rupture. The units shall average fifty pounds per square inch in MODULUS of rupture when tested according to the following procedure:

1. A cured unit shall be laid over (cylindrical) supports two inches in diameter, two inches from each end, and extending across the full width of the unit.

2. A cylinder two inches in diameter shall be laid midway between and parallel to the supports.

3. Load shall be applied to the cylinder at the rate of five hundred pounds per minute until rupture occurs.

4. The modulus of rupture is equal to

$$3WL$$

$$2Bd^2$$

W = Load of rupture

L = Distance between supports

B = Width of brick

d = Thickness of brick

Section 9704. Construction.

Section 9704.1. Footings and Foundations. All footings and foundations shall be designed as required by Chapter 18, and shall bear the seal and signature of a professional engineer registered in the state when required by Section 106.3.2. Earthen masonry units shall not be used for

footings, foundations, or basement walls. All foundation walls shall extend to an elevation not less than six inches above the finish grade. Foundation walls shall be at least as thick as the wall they support. Where perimeter insulation is used, the width of the foundation wall may be up to two inches smaller than the width of the earthen masonry wall it supports, if the earthen masonry wall is at least ten inches thick.

Section 9704.2. Walls. No adobe shall be laid in the wall until fully cured. Nor shall earthen masonry units be laid in a wall until all required tests have been performed and approved.

Mortar "bedding" joints shall be full slush type, with no open "head" joints. All joints shall be bonded (overlapped) a minimum of four inches.

Use of unstabilized earthen masonry units is prohibited within four inches above finished floor grade, within twelve inches of exterior ground level, at the top four inches of unenclosed walls and parapets, and around roof drains or other areas where the probability of moisture is significant.

Section 9704.3. Wall Reinforcing. Walls shall be reinforced with galvanized nine gauge truss type reinforcement spaced not more than sixteen inches vertically for the full height of the wall. Side rods of reinforcing shall maintain one inch clearance from each face of wall.

Section 9704.4. Wall Heights. Maximum height of wall to width ratio shall be determined from Tables 97 A and 97 B.

Section 9704.5. Bracing. All earthen masonry walls shall be laterally supported with intersecting walls or partitions located not more than twenty four feet apart. Intersecting walls or partitions shall be designed in accordance with one of the following or approved equivalents:

A. One section of the earthen masonry wall or partition shall be without openings for the length of not less than one and one half times the height.

B. One section of the earthen masonry wall or partition shall be without openings for the length of not less than the height of the wall, and galvanized nine gauge truss type horizontal reinforcing shall be provided at each course for the full height of the wall. Side rods of reinforcing shall maintain one inch clearance from each face of wall.

C. Wood framed walls and partitions built in accordance with Chapter 23 and braced with wood structural panels as required by Section 2326.11.3 Item 3 or Section 2326.11.4.

Section 9704.6. Piers. A minimum twenty eight inch wall section shall be required between openings and openings shall not be placed within twenty eight inches of exterior corners.

Section 9704.7. Partitions. Partitions of other materials shall be constructed as specified in the appropriate chapters of the code. Wood partitions shall be nailed to nailing blocks laid up in the earthen masonry or bolted through the adobe wall the height of the partition with one half inch

diameter bolts at twenty-four inch on center spacing with large washers or plates, or other approved methods.

~~Section 9704.8. Bond Beams. All bearing and exterior walls shall be topped with a continuous concrete bond beam. The bond beam shall be a minimum of five and one-half inches thick by the width of the top of the wall. A bond beam centered to cover two-thirds of the wall shall be allowed for walls wider than ten inches. All concrete bond beams shall be reinforced with a minimum two #4 rebar, one installed at each face. All bond beam construction shall be in accordance with accepted engineering practices.~~

~~Section 9704.9. Bolts. Bolt values shall not exceed those set forth in Table 97-C.~~

~~Section 9704.10. Lintels. Members supporting earthen masonry units shall be reinforced concrete, reinforced masonry, or galvanized or epoxy-coated steel. Treated wood members may be used as lintels subject to the criteria outlined in Table 97-D. Wood not meeting the specifications for lintels as outlined in Table 97-D shall be for decorative purposes only unless designed by a registered architect or a professional engineer licensed by the state. All lintels shall have a minimum twelve-inch bearing. The wall may overhang the lintel a maximum of two inches on each side.~~

~~Section 9704.11. Roofs. Roofs shall be designed, constructed, and anchored as required by Chapters 15, 16, 23, and other appropriate chapters of this code.~~

~~Section 9704.12. Plastering. All unstabilized earthen masonry units shall have all exterior walls plastered on the outside with Portland cement plaster, minimum thickness three-quarter inches in accordance with Chapter 25. Protective coatings other than plaster are allowed, providing such coating is equivalent to Portland cement plaster in protecting against deterioration and/or loss of strength due to water. Metal wire mesh shall be securely attached to the exterior wall surface by nails or staples with minimum spacing of sixteen inches from each other and having a minimum penetration of one and one-half inches. All exposed wood surfaces shall be treated with an approved wood preservative before the application of wire mesh. Alternative plastering systems shall be approved by the building official.~~

~~Section 9704.13. Electrical. All wiring within or on earthen masonry walls shall meet all provisions of the National Electrical Code adopted by this jurisdiction. Type UF cable may be directly imbedded within earthen masonry mortar, or wiring may be run in metallic or non-metallic conduit systems.~~

~~Section 9705. Floor Area. Allowable floor area shall not exceed that specified under Occupancy. Earthen masonry construction shall be allowed the same area as given in Type V-N construction.~~

~~Section 9706. Energy Requirement. All methods of wall insulation shall comply with the manufacturer's recommendations. The building shall meet all applicable energy codes.~~

~~Exception: A vapor barrier shall not be allowed to cover the wall.~~

Section 9707. Fire Rating. Walls with a minimum thickness of eight inches shall be deemed to have a fire resistive rating of one hour.

Section 9708. Rammed Earth. In addition to the applicable requirements of this chapter, rammed earth construction shall be governed by the following additional provisions: The design and structural calculations by the licensed professional shall be submitted to the building official for review and approval before issuance of the building permit. Testing shall be in accordance with standards and a schedule approved by the building official, and the owner shall have a professional engineer licensed to practice in this state and approved by the building official conduct special inspections and soil compaction tests on the site during the construction of the rammed earth walls as called for in the approved testing schedule. Soils used shall meet the requirements of Section 9702.1. Moisture content of rammed earth walls shall be suitable for proper compaction. Suitable forms shall be used. Uncompacted damp soil shall be compacted in lifts not to exceed 6" until suitable compressive strength is achieved. The building official may allow continuous construction of rammed earth prior to the full curing process, provided proper compaction methods are followed.

Table 97 A

Maximum allowable height to width ratio for exposed unbraced earthen masonry walls supported at base	
Interior ¹	Exterior ²
5:1	2.5:1

1 Includes guard rails, short walls, room dividers, etc. Guard rails shall have a minimum thickness of twelve inches.

2 Includes parapets, patio walls, etc.

Table 97 B

Maximum allowable height to width ratio for exposed earthen masonry walls laterally supported at top and			
Interior		Exterior	
Bearing	Non-Bearing	Bearing	Non-Bearing
12:1	10:1	8:1	8:1

Section 9706. Energy Requirement. All methods of wall insulation shall comply with the manufacturer's recommendations. The building shall meet all applicable energy codes.

Table 97 C

ALLOWABLE SHEAR ON BOLTS FOR EARTHEN MASONRY UNITS

Diameter of Bolts(inches)	Embedments(inches)	Shear(pounds)
x 25.4 for mm		x 4.45 for N
1/2	9	100
5/8	12	200
3/4	15	300
7/8	18	400
1	21	500
1-1/8	24	600

Table 97 D

**MAXIMUM ALLOWABLE OPENING IN EARTHEN MASONRY
BEARING WALLS CONTAINING TREATED WOOD LINTELS**

Wall Thickness (inches)	Wall Height (feet)	Lintel Size (flatwise)	Maximum Opening
8	8	6 x 8	3' 4"
10	10	6 x 10	3' 7"
12	12	6 x 12	3' 10"
16	16	6 x 16	3' 11"
18	18	6 x 18	3' 10"

CHAPTER 98. STRAW BALE STRUCTURES.

Section 9801. Purpose. The purpose of this chapter is to establish minimum prescriptive standards of safety for the construction of structures which use baled straw as a load bearing or non-load bearing material.

Section 9802. Scope. The use of baled straw shall be limited to buildings of Group R, Division 3 and Group U occupancies of no more than one story in height, with a maximum roof span of thirty two feet between bearing walls, unless design and structural calculations are submitted by a registered architect or a professional engineer licensed to practice in the state and approved by the building official.

Section 9803. Definitions. For the purpose of this chapter, certain terms are defined as follows:

STRAW is the dry stems of cereal grains left after the seed heads have been removed.

BALES are rectangular compressed blocks of straw, bound by strings or wire.

FLAKES are slabs of straw removed from an untied bale. Flakes are used to fill small gaps between the ends of stacked bales.

LAID FLAT refers to stacking bales so that the sides with the largest cross sectional area are horizontal and the longest dimension of this area is parallel with the wall plane.

LAID ON EDGE refers to stacking bales so that the sides with the largest cross sectional area are vertical and the longest dimension of this area is horizontal and parallel with the wall plane.

Section 9804. Materials.

Section 9804.1. Specifications for Bales.

Section 9804.1.1. Type of Straw. Bales of various types of straw, including, but not limited to, wheat, rice, rye, barley, oats and similar plants, shall be acceptable if they meet the minimum requirements for density, shape, moisture content, and ties.

~~Section 9804.1.2. Shape. Bales shall be rectangular in shape.~~

~~Section 9804.1.3. Dimensions. Bales used within a continuous wall shall be of consistent height and width to ensure even distribution of loads within wall systems.~~

~~Section 9804.1.4. Ties. Bales shall be bound with ties of either polypropylene string or baling wire. Bales with broken or loose ties shall not be used unless the broken or loose ties are replaced with ties which restore the original degrees of compaction of the bale.~~

~~Section 9804.1.5. Moisture Content. Moisture content of bales, at time of installation, shall not exceed twenty percent of the total weight of the bale. Moisture content of bales shall be determined by one of the following:~~

~~Section 9804.1.5.1. Field Method. A suitable moisture meter, designed for use with baled straw or hay, and equipped with a probe of sufficient length to reach the center of the bale, shall be used to determine the average moisture content of five bales randomly selected from each five hundred bales or fraction thereof.~~

~~Section 9804.1.5.2. Laboratory Method. A total of five samples, taken from the center of each of five bales randomly selected from each of five hundred bales or fraction thereof to be used, shall be tested for moisture content by a recognized testing lab.~~

~~Section 9804.1.6. Density. Bales shall have a minimum calculated dry density of seven pounds per cubic foot. The calculated dry density shall be determined after reducing the actual bale weight by the weight of the moisture content, as determined in Section 9804.1.5. The calculated dry density shall be determined by dividing the calculated dry weight of the bale by the volume of the bale.~~

~~Section 9804.1.7. Custom Size Bales. Where custom-made partial bales are used, they shall be of the same density, same string or wire tension, and, where possible, use the same number of ties as the standard size bales.~~

~~Section 9805. Construction and General Requirements.~~

~~Section 9805.1. General. Bale walls, when laid flat and covered with plaster, drywall or stucco shall be deemed to have the equivalent fire resistive rating as wood frame construction with the same wall finishing system.~~

~~Section 9805.2. Storage. All bale and loose hay shall be stored in accordance with the fire code. Bales and loose hay shall be properly protected from moisture while being transported, stored, and during construction.~~

~~Section 9805.3. Wall Thickness. Nominal minimum bale wall thickness shall be fourteen inches.~~

~~Section 9805.4. Wall Height. Bale walls shall not exceed one story in height and the bale portion shall not exceed a height to width ratio of 5.6:1 (for example, the maximum height for the bale~~

portion of a twenty-three inch thick wall would be ten feet eight inches), unless the structure is designed by a registered architect or a professional engineer licensed by the state to practice as such, and approved by the building official.

Exception: In the non load bearing exterior end walls of structures with gable or shed roofs, an approved continuous assembly shall be required at the roof bearing assembly level.

Section 9805.5. Unsupported Wall Length. The ratio of unsupported wall length to thickness, for bale walls, shall not exceed 13:1 (for a twenty-three inch thick wall, the maximum unsupported length allowed is twenty-five feet), unless the structure is designed by a registered architect or a professional engineer licensed by the state to practice as such, and approved by the building official.

Section 9805.6. Allowable Loads. The allowable vertical load (live and dead load) on the top of load bearing bale walls shall not exceed four hundred pounds per square foot, based on walls with bales laid flat, and the resultant load shall act at the center of the wall. Bale structures shall be designed to withstand all vertical and horizontal loads as specified in Chapter 16.

Section 9805.7. Footings and Foundations. All footings and foundations shall be designed as required by Chapter 18, and shall bear the seal and signature of a professional engineer registered in the State of Colorado when required by Section 106.3.2. Foundations shall be sized to accommodate the thickness of the bale wall and the load created by the wall and roof live and dead loads. Foundation (stem) walls which support bale walls shall extend to an elevation of not less than six inches above adjacent ground at all points.

Section 9805.8. Wall and Roof Bearing Assembly Anchorage.

Section 9805.8.1. General. Vertical rebar with a minimum diameter of one half inch shall be embedded in the foundation a minimum depth of six inches, and shall extend above foundation a minimum of twelve inches. The vertical bars shall be located along the centerline of the bale wall, spaced not more than two feet apart. A vertical bar shall also be located within one foot of any opening or corner, except at locations occupied by anchor bolts.

Section 9805.8.2. Intersecting Walls. Walls of other materials intersecting bale walls shall be attached to the bale wall by means of one or more of the following methods or an acceptable equivalent:

1. Wooden dowels at least five eighths inch in diameter of sufficient length to provide twelve inches of penetration into the bale, driven through holes bored in the abutting stud, and spaced to provide one dowel connection per bale.
2. Pointed wooden stakes, at least twelve inches in length and one and one-half inch by three and one-half inches at the exposed end, fully driven into each course of bales, as anchorage points.

3. Bolted or threaded rod connection of the abutting wall, through the bale wall, to a steel nut and steel or plywood plate washer, a minimum of six inches square and a minimum thickness of three sixteenth inch for steel and one half inch for plywood, in at least three locations.

~~Section 9805.8.3. Anchor Bolts. All exterior and load bearing bale walls shall be anchored to the foundation by one half inch diameter steel anchor bolts embedded at least seven inches in the foundation at intervals of four feet or less. A minimum of two anchor bolts per wall shall be provided with one bolt located within twenty four inches of each end of each wall. Sections of one half inch diameter threaded rod shall be connected to the anchor bolts, and to each other, by means of threaded coupling nuts and shall extend through the roof bearing assembly and be fastened with a steel washer and nut. Bale walls and roof bearing assemblies may be anchored to the foundation by means of other methods which are adequate to resist uplift forces resulting from the design wind load and approved by the building official. There shall be a minimum of two points of anchorage per wall, spaced not more than four feet apart, with one located within twenty four inches of each end of each wall.~~

~~The dead load of the roof and ceiling systems will produce vertical compression of the bales. Regardless of the anchoring system used to attach the roof bearing assembly to the foundation, prior to installation of wall finish materials, bolts or straps shall be re-tightened to compensate for this compression.~~

~~Section 9805.8.4. Moisture Protection. All weather exposed bale walls shall be protected from water damage. An approved building moisture barrier shall be used to protect at least the bottom course of bales, but not more than the lower one third of the vertical exterior wall surface, in order to allow natural transpiration of moisture from the bales. The moisture barrier shall have its upper edge inserted at least six inches into the horizontal joint between two courses of bales, and shall extend at least three inches below the top of the foundation. Bale walls shall have special moisture protection provided at all window sills. Unless protected by a roof, the tops of walls shall also be protected. This moisture protection shall consist of a waterproof membrane, such as asphalt impregnated felt paper, polyethylene sheeting, or other acceptable moisture barrier, installed in such manner as to prevent water from entering the wall system at window sills or at the tops of walls.~~

~~Section 9805.8.5. Moisture Barrier. A moisture barrier shall be used between the top of the foundation and the bottom of the bale wall to prevent moisture from migrating through the foundation into the bottom course of bales. This barrier shall consist of one of the following:~~

- ~~1. Cementitious waterproof coating;~~
- ~~2. Type 30 asphalt felt over asphalt emulsion;~~
- ~~3. Sheet metal flashing, sealed at joints;~~
- ~~4. Other approved building moisture barrier. All penetrations through the moisture barrier, as well as all joints in the barrier, must be sealed with asphalt, caulking or an approved sealant.~~

~~Section 9805.8.6. Stacking and Pinning. Bales in all exterior and load bearing walls shall be laid flat and stacked in running bond with each bale overlapping the two bales beneath it. Bales in non load bearing interior walls may be laid either flat or on edge and stacked in running bond. Overlaps shall be a minimum of twelve inches. Gaps between the ends of bales which are less than six inches in width can be filled by a tightly fitted untied flake.~~

~~The first course of bales shall be laid by impaling the bales on the vertical bars or threaded rods, extending from the foundation. When the fourth course has been laid, #4 rebar pins, or an acceptable equivalent, long enough to extend through all four courses, shall be driven down through the bales, two in each bale, located so that they do not pass within six inches of, or through the space between the ends of any two bales. The layout of these pins shall approximate the layout of the vertical bars extending from the foundation. As each subsequent course is laid, two such pins, long enough to extend through the course being laid and the three courses immediately below it, shall be driven down through each bale. This pinning method shall be continued to the top of the wall. In walls seven or eight courses high, pinning at the fifth course may be eliminated.~~

~~Only full length bales shall be used at corners of load bearing walls, unless exceptions are designed by a professional engineer licensed by the state to practice as such, and approved by the building official.~~

~~Vertical #4 rebar pins, or an acceptable alternative, shall be located within one foot of all corners or door openings.~~

~~Staples, made of #3 or larger rebar formed in a "U" shape, at least eighteen inches long with two six inch legs, shall be used at all corners of every course, driven with one leg into the top of each abutting corner bale. In lieu of staples, corner bales may be tied together by a method approved by the building official.~~

~~Section 9805.8.6.1. Alternative Pinning Method. When the third course has been laid, vertical #4 rebar pins, or an acceptable equivalent, long enough to extend through all three courses, shall be driven down through the bales, two in each bale, located so that they do not pass within six inches of, or through, the space between the ends of any two bales. The layout of these rebar pins shall approximate the layout of the rebar pins extending from the foundation. As each subsequent course is laid, two such pins, long enough to extend through that course and the two courses immediately below it, shall be driven down through each bale. This pinning method shall be continued to the top of the wall.~~

~~Section 9805.8.7. Roof and Roof Bearing Assembly. Load bearing bale walls shall have a roof bearing assembly at the top of the wall to bear the roof load and to provide a means of connecting the roof structure to the foundation. The roof bearing assembly shall be continuous along the tops of structural walls. Roofs shall be designed, constructed, and anchored as required by Chapters 15, 16, 23, and other appropriate chapters of this code.~~

~~An acceptable roof bearing assembly option consisting of two double two inch by six inch, or larger, horizontal top plates, one located at the inner edge of the wall and the other at the outer~~

edge. Connecting the two doubled top plates and located horizontally and perpendicular to the length of the wall shall be two inch by six inch cross members spaced no more than forty-eight inches center to center, and as required to align with the threaded rods extending from the anchor bolts in the foundation. The double two inch by six inch top plates shall be face nailed with 16d nails staggered at sixteen inches on center, with laps and intersections face nailed with four 16d nails. The cross members shall be face nailed to the top plates with four 16d nails at each end. Corner connections shall include overlaps nailed as above or an acceptable equivalent such as plywood gussets or metal plates. Alternatives to this roof bearing assembly option must provide equal or greater vertical rigidity and provide horizontal rigidity equivalent to a continuous double two inch by six inch top plate and approved by the building official.

~~Section 9805.8.8. Openings and Lintels. All openings in load bearing bale walls shall be a minimum of one full bale length from any outside corner, unless designed by a registered architect or a professional engineer licensed by the state to practice as such, and approved by the building official.~~

~~Section 9805.8.8.1. Openings. Openings in exterior bale walls shall not exceed fifty percent of the total wall area, based on interior dimensions, where the wall is providing resistance to lateral loads, unless the structure is designed by a registered architect or a professional engineer licensed by the state to practice as such, and approved by the building official.~~

~~Section 9805.8.8.2. Lintels. Wall and/or roof load present above any opening shall be carried, or transferred to the bales below by one of the following:~~

~~1. A structural frame;~~

~~2. A lintel (such as an angle iron cradle, wooden beam, wooden box beam). Lintels shall be at least twice as long as the opening is wide and extend at least twenty four inches beyond either side of the opening. Lintels shall be centered over openings, and shall not exceed the load limitations of Section 9805.6.~~

~~Section 9805.8.9. Wall Finishes. Interior and exterior surfaces of bale walls shall be protected from mechanical damage, flame, animals, and prolonged exposure to water. Bale walls adjacent to bath and shower enclosures shall be protected by a moisture barrier.~~

~~Cement stucco shall be installed as required by the building code.~~

~~Where bales abut other materials the plaster/stucco shall be reinforced with galvanized expanded metal lath, or an acceptable equivalent, extending a minimum of six inches onto the bales.~~

~~Earthen and lime based plasters may be applied directly onto the exterior and interior surface of bale walls without reinforcement, except where applied over materials other than straw.~~

~~Weather exposed earthen plasters shall be stabilized using a method approved by the building official.~~

~~Lime-based plasters may be applied directly onto the exterior surface of bale walls without reinforcement, except where applied over materials other than straw.~~

~~Section 9805.8.10. Electrical. All wiring within or on bale walls shall meet all provisions of the National Electrical Code adopted by this jurisdiction. Type NM or UF cable may be used, or wiring may be run in metallic or non-metallic conduit systems. Electrical boxes shall be securely attached to wooden stakes driven a minimum of twelve inches into the bales, or an acceptable equivalent.~~

~~Section 9805.8.11. Plumbing. Water pipes within bale walls shall be encased in a continuous pipe sleeve to prevent leakage within the wall. Where water pipes are mounted on bale walls, they shall be isolated from the bales by a moisture barrier. Gas piping shall not be encased within bale walls without prior approval from the building official.~~

~~Section 9805.8.12. Insulation. All straw bale buildings shall be constructed to comply with the adopted energy code.~~

~~Exception: A vapor barrier shall not be installed over the exterior walls.~~

~~Flat laid walls shall have an assumed R-value of 2.4 per inch of thickness.~~

~~(b)(x)~~ A new chapter 99 is added to the Building Code to read:

CHAPTER 99. FENCES AND WALLS.

Section 9901. Definitions.

(1) As used herein, the term "wall" means a free standing structure such as a fence or retaining wall.

(2) As used herein and in Section 9-3.3-6, "Fences, Hedges, and Walls," B.R.C. 1981, the term "finished grade" means the top surfaces of lawns, walks, drives, or other improved surfaces after completion of construction or grading operations, but not including vegetation growing on the surface.

(3) For purposes of determining the maximum height allowable for any fence or wall other than wind load height as specified in subsection (4) of this section, refer to Section 9-3.3-6, "Fences, Hedges, and Walls," B.R.C. 1981, and the diagram below.

[SPACE FOR DIAGRAM HERE] B.R.C. 9-9-15 (c)

4) For purposes of determining wind load design in the case of a fence erected above a retaining wall, the height of such fence means the distance from the top of the retaining wall to the top of the fence, as illustrated in the figure below:

[SPACE FOR DIAGRAM HERE] B.R.C. 9-9-15 (c)

(5) Nothing in this section is intended to prohibit the installation of a guardrail for safety purposes which otherwise conforms to the requirements of this code.

Section 9902. All fences and walls hereafter installed in the city shall comply with Section 9-3.3-6, "Fences, Hedges, and Walls," B.R.C. 1981, and the following provisions:

(1) All fences and walls thirty-six inches high and lower shall have a wind load design of ten pounds per square foot or shall conform to paragraph (3) of this section.

(2) All fences and walls thirty-seven through eighty-four inches high shall have a wind load design of twenty pounds per square foot or shall conform to paragraph (3) of this section.

(3) As an alternative to the requirements of paragraphs (1) or (2), a wood fence that does not exceed seven feet in height may be installed if the following requirements are met:

(a) All posts shall be at least four inch by four inch timber or two inch Schedule 40 pipe and shall be set at least twenty-four inches in the ground in concrete;

(b) All wood below grade shall be cedar, redwood, or penta pressure treated fir;

(c) Post spacing shall be arranged so that the area of the fence between posts does not exceed 30 square feet;

(d) Wood fencing more than fifty percent open may exceed the 30 square foot post spacing requirements if designed for a ten pound wind load.

(4) Chain link fences. On all chain link fences, the fence posts shall be at least one and one-half inch diameter pipe, and shall be set at least twenty-four inches in the ground in concrete.

(5) For the purpose of minimizing traffic hazards at street intersections by improving visibility for converging vehicles, obstructions higher than thirty inches above the adjacent top or curb elevation are not permitted to be planted, placed, or erected on any corner lot within the triangular portion of land designated as "Restricted Area" in the figure below or on the adjacent right of way:

[SPACE FOR DIAGRAM HERE]

6) Where permitted, fences exceeding seven feet in height shall conform to the zoning requirements for accessory structures.

10-5-3 Adoption of Uniform Code for Abatement of Dangerous Buildings with Modifications.

The 1997 edition of the *Uniform Code for the Abatement of Dangerous Buildings* of the International Conference of Building Officials is hereby adopted by reference as the City of Boulder's Abatement Code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this section set forth below:

(a) Section 201.3, "Right of Entry," is repealed and reenacted to read:

Section 201.3 Right of Entry.

(1) Whenever the city manager has probable cause to believe that there exists in any building or upon any premises any condition or code violation which makes such building or premises unsafe, dangerous, or hazardous, and the manager determines that an inspection of the property is necessary to discover the extent of the hazard and to order the appropriate corrections, the manager shall request entry from the occupants or, if the building is unoccupied, from the owner or any other person having charge or control over the building or premises. If entry is refused, or if the manager is unable, after making reasonable efforts, to locate a person responsible for an unoccupied building, or such person does not respond to the manager's request, the manager shall apply to a judge of the municipal court for an inspection warrant pursuant to Subsection 2-6-3(e), B.R.C. 1981.

(2) In cases of emergency where there is imminent danger of injury to any person or of damage to property of another, the manager may enter any property to make any necessary inspections under this code or to take any other action authorized by this code without permission or warrant.

(b) Section 203, "Violations," is repealed and reenacted to read:

Violations

Section 203. (1) No person shall erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the same to be done in violation of the Code for Abatement of Dangerous Buildings. (2) No owner and no person having charge or control over any building or premises shall fail to comply with any order issued to such person under the Code for Abatement of Dangerous Buildings.

(c) Section 205.1, "Board of Appeals," is repealed and reenacted to read:

Appeals

Section 205.1.

(a) The record owner of a building or the owner's authorized agent or any person with any other legal interest in the building may appeal any order issued pursuant to Section 401.2 to the board of building appeals on the ground that such order was based on an erroneous interpretation or application of this or any other city code by the city manager. The city manager has the burden of proof in such an appeal. The board shall determine whether the city manager's interpretation or application of such code was correct or in error at a hearing under the procedures described by Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981.

[SPACE FOR DIAGRAM HERE] (b) An applicant for an appeal to the board of building appeals shall pay the fee prescribed by Section 4-20-47, "Zoning Adjustment and Building Appeals Filing Fees," B.R.C. 1981.

(c) The board of building appeals has no authority to interpret the administrative provisions of this code nor may the board waive any requirement of this code.

(d) The definition of "housing code" in Section 301, "General," is repealed and reenacted to read:

HOUSING CODE means Chapter 10-2, "Housing Code," B.R.C. 1981.

(e) The introductory paragraph of Section 302, "Dangerous Building," is repealed and reenacted to read:

For the purposes of this code, any building or structure which has any or all of the conditions or defects hereinafter described shall be deemed to be a dangerous building.

(f) Paragraphs 4 and 5 of Section 401.2, "Notice and Order," and Sections 401.4 and 401.5 are repealed and reenacted to read:

4. Statements advising that if any required repair or demolition work (without vacation also being required) is not commenced within the time specified, the city manager:

(I) will order the building vacated and posted to prevent further occupancy until the work is completed;

(II) may proceed to cause the work to be done and charge the costs thereof against the property or its owner pursuant to Section 2-2-12, "City Manager May Certify Taxes, Charges, and Assessments to County Treasurer for Collection," B.R.C. 1981; and

(III) may cause a summons and complaint to be served upon the property owner or any person having charge or control over the building or premises for failure to make required repairs or demolition within the time specified.

5. Statements advising:

(I) that any person having any record title or legal interest in the building may appeal from the notice and order or any action of the city manager to the board of building appeals, provided the appeal is made in writing as provided in this code and filed with the city manager within ten days from the date of service of such notice and order; and

(II) that failure to appeal will constitute a waiver of all right to an administrative hearing and determination of the matter.

401.4 The method of service shall be as prescribed in Section 1-3-3, "Notice of Agency Action," B.R.C. 1981.

(g) The final paragraph of Section 501.1 is repealed.

(h) Chapter 6, "Procedure for Conduct of Hearing Appeals," is repealed and reenacted to read:

Chapter 6.

Appeal Procedure. Appeals shall be heard pursuant to Section 1-3-5, "Hearings and Determinations," B.R.C. 1981.

(I) Section 801.2, "Costs," is repealed and reenacted to read:

The cost of such work plus twenty percent for administrative overhead shall be billed to the record owner of the property, and if not paid within thirty days of billing may be collected pursuant to Section 2-2-12, "City Manager May Certify Taxes, Charges, and Assessments to County Treasurer for Collection," B.R.C. 1981.

(i) Chapter 9, "Recovery of Cost of Repair or Demolition," is repealed.

10-5-4 Building Permit Fees.

Building permit fees are those prescribed by Subsection 4-20-4(c), B.R.C. 1981. Fees for other permits issued pursuant to this chapter and charges for services are those prescribed by Subsection 4-20-4(d), B.R.C. 1981.

10-5-5 Wood Roof Covering Materials Prohibited.

(a) No person shall install or cause to be installed any wood roof covering materials, including, without limitation, wood shakes or wood shingles. This prohibition includes wood roof covering materials with fire retardant treatments of any kind.

(b) It shall be a specific defense to a charge of violation of subsection (a) of this section that the wood roof covering materials were installed before January 1, 2014, to repair portions of an existing wood roof, that the repair wood roof covering materials were factory pressure treated so as to be fire retardant and are approved as meeting Class B standards in accordance with Section 1501.1 of the building code, and that the wood roof covering materials were installed in a quantity not exceeding fifty percent of the roof surface in any three-hundred-sixty-five-day period.

(c) No person owning a building with wood roof covering materials shall fail to remove or cause to be removed from the building all wood roof covering materials before January 1, 2014, and to replace the removed roofing with approved roof covering materials which conform to the International Building Code as adopted, and no person shall thereafter take possession or ownership of a building with wood roof covering materials.

(d) The following additional definition applies to this section and to Chapter 15 of the building code:

"Wood roof covering material" means an exterior surface material used as a top covering and made of wood. "Wood," for the purposes of this definition, means any natural or composite material containing at least fifty percent wood by volume.

Chapter 10-5.5 Residential Building Code

Adopted by Ordinance No. 7304.

10-5.5-1 Legislative Intent.

The purpose of this chapter is to protect the public health, and safety, and general welfare by regulating the construction, alteration, ~~repair, wrecking, and moving of residential structures in the city, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one and two-family dwellings and townhouses, not more than three stories above grade in height with a separate means of egress, and their accessory structures.~~ The city council hereby adopts the 2003-2006 edition of the International Residential Code with certain amendments thereto found to be in the best interests of the city.

10-5.5-2 Adoption of the International Residential Code with Modifications.

(a) The 2003-2006 edition of the International Residential Code of the International Code Council is hereby adopted by reference as the City of Boulder Residential Building Code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) The Appendix chapters D, E, G, H, J, ~~and K,~~ and O and sections contained therein are adopted.

(c) Section R101.1 "Title" is repealed and reenacted to read:

R101.1 Title. These provisions shall be known as the Residential Code of the City of Boulder or residential code and shall be cited as such and will be referred to herein as "this code".

~~(d) The exception to Section R101.2 Scope is repealed.~~

~~(e)-(d)~~ Sections R102 through R114 are repealed. This code shall be administered in accordance with Chapter 1, "Administration," of the International Building Code as adopted, with amendments, by Section 10-5-2, "Adoption of International Building Code With Modifications," B.R.C. 1981.

~~(f)-(e)~~ The climatic and geographic design criteria applicable to Table R301.2 (1) are:

Roof-Ground Snow Load = thirty pounds per square foot with a minimum Roof Snow Load of 30 pounds per square foot.

Three second wind gust velocity = 110 MPH

Seismic Design Category = B

Weathering = severe

Frost line depth = 32 inches

Termite = slight

Decay = none to slight

Winter Design Temp = 2 degrees Fahrenheit

Ice ~~shield-barrier~~ underlayment required = NO

Flood Hazards = See B.R.C. 1981 Sections 9-3-3 through 9-3-9

Air freezing index = 459

Mean annual temp = 52.1

(f) Section R301.2.4: A new sentence is added to the end of the section reading "All work on structures in the scope of this Code shall also meet the requirements of B.R.C. 1981 Sections 9-3-3 through 9-3-9"

(g) Section R902.1, "Roof covering materials," is repealed and reenacted to read:

R902.1. Roof covering materials. All roof covering materials shall be listed as Class A as tested in accordance with UL Standard 790 or ASTM Standard E 108. Roof assemblies with covering of brick, masonry, slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets and metal sheets and shingles, shall be considered Class A roof coverings. Unless otherwise specified in this section, roof coverings shall be installed to resist the component and cladding loads specified in table R301.2(2), adjusted for height and exposure in accordance with table R301.2 (3).

(h) Section R905.7, "Wood shingles," is repealed and reenacted to read:

R905.7. Wood shingles. Wood shakes, wood shingles and wood roof covering materials are prohibited except as provided in Section 10-5-5, "Wood Roof Covering Materials Prohibited," B.R.C. 1981, for certain minimal repairs.

(i) Section R905.8, "Wood shakes," is repealed and reenacted to read:

R905.8. Wood shakes. Wood shakes, wood shingles and wood roof covering materials are prohibited except as provided in Section 10-5-5, "Wood Roof Covering Materials Prohibited," B.R.C. 1981, for certain minimal repairs.

(j) Chapter 11, "Energy Efficiency" ~~is repealed.~~

Sections N1101 through N1103 are repealed. A new Section N1101 is added to read:

N1101. Scope. Regulations concerning the design and construction of buildings for the effective use of energy and requirements for green building practices shall be administered in accordance with the 2006 International Energy Conservation Code as adopted, with amendments, by Chapter 10-7, "Energy Conservation and Insulation Code", B.R.C. 1981 and Chapter 10-7.5 "Green Points", B.R.C. 1981.

~~(k) Section M1411.3, "Condensate disposal," is amended by adding "category IV condensing appliances" to the first sentence to read:~~

~~Condensate from all cooling coils, evaporators or category IV condensing appliances shall be conveyed from the drain pan outlet to an approved place of disposal.~~

~~(l) A new section is added to Chapter 15, "Exhaust Systems," to read:~~

~~Section M1500. Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors at a point where it will not create a nuisance. Air shall not be exhausted into an attic, soffit, ridge vent or crawl space.~~

~~Exception: Whole house ventilation type attic fans that discharge into the attic space of dwelling units having private attics are not prohibited.~~

(k) Section M1501.1 "Outdoor discharge" is amended by adding "at a point where it will not create a nuisance" to the first sentence to read:

The air removed by every mechanical exhaust system shall be discharged to the outdoors at a point where it will not create a nuisance.

~~(m)-(l) A new sentence is added to item 2 of Section M1601.1.1, "Above-ground duct systems," to read:~~

Flexible air duct shall not exceed 7 feet in length and flexible connectors are limited to toilet rooms and bathroom exhaust systems only.

~~(n)-(m)~~ A new sentence is added to Section M1602.1, "Return air," to read:

Within individual dwelling units there shall be at least one return air opening on each floor.

~~(o)-(n)~~ Exceptions 2, 3, and 4 to Section G2406.2, "Prohibited locations," are repealed, and exception 5 is amended by adding "thermally isolated" to the first sentence to read:

The appliance is installed in a thermally isolated room or space that opens only onto a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device.

~~(p)~~ (o) A new sentence is added to Section G2407.6, "Outdoor combustion air," to read:

The room in which the appliances are receiving outdoor combustion air must be thermally isolated from the conditioned space of the dwelling unit or such outdoor air must be conditioned prior to entering the dwelling unit or room in which the appliance served, is located.

(p) G2415.4 is repealed and reenacted to read:

G2415.4 Piping through foundation wall. Gas piping shall enter the building above grade through the foundation wall, building or structure.

(q) Section G2415.9, "Minimum burial depth," is repealed and reenacted to read:

G2415.9 Minimum burial depth. Underground piping systems shall be installed at a minimum depth of 12 inches below grade for metallic piping and a minimum depth of 18 inches for non-metallic piping. Where such depths cannot be obtained, equivalent protection must be provided by other means approved by the building official.

(r) Section G2415.9.1 is repealed.

(s) Section G2417.4.1, "Test pressure," is repealed and reenacted to read:

G2417.4.1. Test pressure. The test pressure to be used shall be no less than 1 ½ times the proposed maximum working pressure, but not less than 10 psig.

(t) Section G2432.1, "Decorative appliances for installation in fireplaces," is amended by adding a new item 2432.1.2 to read:

G2432.1.2. Within a vented fireplace the damper must be removed or welded open and glass doors installed over the fireplace opening.

(u) Section G2434.1, "Vented gas fireplaces," is amended by adding a new item G2434.1.1 to read:

G2434.1.1. Vented gas fireplaces shall be provided with outside combustion air and glass doors.

(v) Section G2435.1, "Vented gas fireplace heaters," is amended by adding a new item G2435.1.1 to read:

G2435.1.1. Vented gas fireplace heaters shall be provided with outside combustion air.

(w) Section G2445.4, "Prohibited locations," is repealed and reenacted to read:

These appliances shall not be used in bedrooms or rooms readily used for sleeping purposes.
(x) Section P2503.6 "Water-supply system testing," is amended by deleting the words "for piping systems other than plastic" in the first paragraph.

(y) Section P2603.6.1 is deleted in its entirety.

(z) Section P2801.5.1 "Piping for safety pan drains shall be of those materials listed in Table P204.5." is repealed.

(aa) Section P2904.5 is amended by adding a new paragraph to read:
Water service line pipe between the water meter and building shall be Type K copper if it is in the public right-of-way, a public utility easement, or on other public property.

(bb) Section P3103.1 "Roof extensions" is amended to read:
Open vent pipes that extend through a roof shall be terminated at least 12 inches (305 mm) above the roof on the high side of the vent, except that where a roof is to be used for any other purpose other than weather protection, the vent extension shall run at least 7 feet (2138 mm) above the roof.

(cc) Section E3501.6.2, "Service Disconnect Location". A new sentence is added to the end to read: Service entrance conductors shall not exceed ten feet maximum developed length unspliced between the meter housing and the main disconnect. This allows the service entrance conductors to run within the building up to ten feet and to terminate at the disconnecting means.

(dd) The last sentence of section E3508.1.1.1, concerning metal underground water pipe as a grounding electrode system, is repealed and reenacted to read:

The supplemental electrode shall be permitted to be bonded to the grounding electrode conductor, the grounded service-entrance conductor, the grounded service raceway, or any grounded service enclosure by means of a separate grounding electrode conductor.

(ee) Section E3808.14 is repealed and reenacted to read:

E3808.14 Connecting receptacle grounding terminal to box. An equipment bonding jumper shall be used to connect the grounding of a grounding-type receptacle to a grounded box.

(ff) Section E3901.6 "Access", the last sentence is repealed and reenacted to read:

They shall be so installed that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than six feet seven inches nor less than three feet above the floor or working platform if within a building, or exterior grade or a working platform if on the exterior of a building.

(gg) Section AJ102.4 is amended to read:

Replacement Windows. Regardless of the category of work, when an existing window, including sash and glazed portion is replaced, the replacement window shall be in accordance with the 2006 International Energy Conservation Code as adopted, with amendments, by Chapter 10-7, "Energy Conservation and Insulation Code", B.R.C. 1981 and Chapter 10-7-5 "Green Points", B.R.C. 1981.

(w)(hh) Section AK102.1, "Airborne Sound," is amended to read:

Airborne sound insulations for wall and floor-ceiling assemblies shall meet a Sound Transmission Class rating 50 when tested in accordance with ASTM Standard E 90. Penetrations or openings in construction assemblies for piping, electrical devices, recessed cabinets, bathtubs, soffits, or heating, ventilating, or exhaust ducts shall be sealed, lined, or insulated, or otherwise treated to maintain the required rating. Dwelling unit entrance doors which share a common space shall be tight fitting to the frame and sill.

(x)(ii) Section AK103.1, "Structural-Borne Sound," is amended to read:

Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within a structure shall have an impact insulation class (IIC) rating of not less than 50 when tested in accordance with ASTM Standard E 492.

(j) Section AO101.1, The words "and for subsurface landscape irrigation" are repealed, and a new sentence is added to the end of the exception to read:
Such systems shall be designed as required by the Boulder County Health Department.

(kk) Figure AO101.1 (2) is repealed.

(ll) Section AO103 is repealed in its entirety.

Chapter 10-6 Electrical Code

Adopted by Ordinance No. 4636. Amended by Ordinance Nos. 4710, 7304. Derived from Ordinance No. 3803.

10-6-1 Legislative Intent.

The purpose of this chapter is to protect the public health and safety by regulating the installation, alteration, or repair of or addition to electrical conductors or equipment installed within or on any structure in the city. The city council hereby adopts the 2002-2005 edition of the *National Electrical Code* with certain amendments and deletions thereto found to be in the best interests of the residents of the city.

10-6-2 Adoption of the National Electrical Code with Modifications.

(a) The ~~2002-2005~~ edition of the *National Electrical Code* of the National Fire Protection Association is hereby adopted by reference as the City of Boulder Electrical Code or electrical code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) Article ~~80-90~~ is repealed. This code shall be administered in accordance with ~~Chapter 1, "Administration," of the International Building Code as adopted, with amendments, by Section 10.5.2, "Adoption of International Building Code with Modifications," B.R.C. 1981, the 2006 International Code Council Electrical Code (ICCEC) with the deletion of ICCEC Section 1202.2 Nonmetallic-sheathed Cable.~~

~~(e) Subsection 210-8(b), is amended by adding the following additional locations where ground fault circuit interrupter protection for personnel is required:~~

~~3. Wet bar sinks—where the receptacles are installed to serve a countertop surface and the receptacle is located within 6 feet of the outside edge of the wet bar sink.~~

~~(d)(c)~~ Subsection 210-70(a)3 is repealed and reenacted to read:

(3) Storage or Equipment Spaces. For attics, underfloor spaces, utility rooms and basements, at least one lighting outlet controlled by a wall switch shall be installed where these spaces are used for storage or contain equipment requiring servicing. The control wall switch shall be located at the usual point of entry to such space. The lighting outlet shall be provided at or near the equipment requiring servicing.

~~(e)(d)~~ The first sentence of Section 230.2, "Number of Services," is repealed and reenacted to read:

230.2. Number of Services. A building or other structure shall be supplied by only one service unless permitted in 230.2(A) through (D) and approved prior to permit issuance or prior to the start of any electrical work indicated on the permit.

~~(f)(e)~~ A new item 3 is added to Section 230.2(B), Special Occupancies, to read:

(3) Fire areas separated by a minimum two hour fire wall as defined by the building code may be considered as separate buildings for the purpose of calculating the number of services if approved by the building official.

~~(g)(f)~~ A new item 4 is added to Section 230.2(C), Capacity Requirements, to read:

(4) Where the existing service is being used to capacity and has been properly maintained.

~~(h)(g)~~ Subsection 230-40, concerning the number of service-entrance conductor sets, is amended by deleting exceptions 3 and 4.

~~(i)-(h)~~ Subsection 230-70(a), concerning the location of service equipment disconnecting means, is repealed and reenacted to read:

(a) Location. The service disconnecting means shall be installed at a readily accessible location either immediately adjacent to or attached to the outside of a building or structure, or inside nearest the point of entrance of the service conductors.

(1) Service entrance conductors shall not exceed ten feet maximum developed length unspliced between the meter housing and the main disconnect. This allows the service entrance conductors to run within the building up to ten feet and to terminate at the disconnecting means.

(2) Electrical rooms containing building main disconnects located within a structure shall be located near the point of service entrance and on the exterior wall with a door leading directly outside. The door shall be identified with three inch high lettering stating "Electrical Equipment Room."

~~(j)-(i)~~ Section ~~250-74~~250.146, concerning connecting receptacle grounding terminal to box, is amended by the deleting ~~exceptions 1, 2 and 3~~ items (A), (B) and (C).

~~(k)-(i)~~ The last sentence of the first paragraph of Subsection 250.53(D)2, concerning metal underground water pipe as a grounding electrode system, is repealed and reenacted to read:

The supplemental electrode shall be permitted to be bonded to the grounding electrode conductor, the grounded service-entrance conductor, the grounded service raceway, or any grounded service enclosure by means of a separate grounding electrode conductor.

~~(l)-(k)~~ Section 310.12(C) is amended by specifying the colors of ungrounded conductors to be black, red, blue for 120/208 volt systems and brown, orange, yellow for 277/480 volt systems.

~~Nonmetallic Sheathed Cable: Types NM, NMC and NMS.~~

(l) The first sentence of section 334.10(2) is amended to read:

(2) Multifamily dwellings permitted to be of types II, III, IV and V construction except as prohibited in 334.12.

(m) The first sentence of Section 334.10(3) is amended to read:

(3) Other structures permitted to be of Types IIB, IIIB, IVB and VB construction of 10,000 square feet or less.

(n) The last sentence of the introductory portion of Subsection 404.8, concerning the location of switches, is repealed and reenacted to read:

They shall be so installed that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than six feet seven inches nor less

than three feet above the floor or working platform if within a building, or exterior grade or a working platform if on the exterior of a building.

(o) Subsection 517-13(A), concerning grounding of receptacles and fixed electric equipment in patient care areas, is amended by adding a sentence to read:

Receptacles and electrical outlets within examining rooms, treatment rooms, and similar areas where the patient may come in contact with electrical devices in these rooms shall be listed hospital grade and identified as such.

(p) Subsection 518-4(B), concerning Non-rated Construction, is repealed and reenacted to read:

(B) Non-rated Construction. Non-metallic-sheathed cable, Type AC cable, electrical non-metallic tubing, and rigid non-metallic conduit shall be permitted to be installed in buildings or portions of buildings of non-rated types of construction in accordance with section 334.10(3).

(q) Subsection 680.73, "Accessibility," is amended by adding the following: Equipment shall be accessed by a panel with a minimum size of twelve inches by twelve inches.

(r) Subsection 690.16 (C) Location. Concerning direct current solar photovoltaic source conductors into a building add the following text. (1) Rooftop mounted solar photovoltaic array systems whose source conductor circuits are entering the building are to be protected against overcurrent at their source on roofs with a slope of 4 inches of rise in 12 inches of run or less slope. (2) Rooftop mounted solar array systems whose source conductor circuits are entering the building are to be protected against overcurrent at their source but no more than 900 mm (3 feet) from the roof eave on roof with a slope of more than 4 inches of rise in 12 inches of run.

10-6-3 Electrical Permit Fees.

Electrical permit fees are those prescribed by Subsection 4-20-8(a), B.R.C. 1981.

Chapter 10-7 Energy Conservation and Insulation Code

Adopted by Ordinance No. 4636. Amended by Ordinance Nos. 4984, 5850, 7233. Derived from Ordinance Nos. 4236, 4503. Repealed and reenacted by Ordinance No. 7141.

10-7-1 Legislative Intent.

The purpose of this chapter is to protect the public health, safety, and welfare by encouraging the conservation of scarce energy resources through the regulation of building construction standards to minimize energy consumption for heating, cooling, lighting, and ventilating structures in the city and to encourage building design incorporating passive solar heating utilizing green building techniques.

10-7-2 Energy Conservation Code.

(a) Council adopts by reference the 2006 International Energy Conservation Code of the International Code Council with the amendments specified below. This chapter shall be administered in accordance with and as part of Chapter 10-5, "Building Code," B.R.C. 1981.

(b) A new subsection is added to read as follows:

~~101.3.1.3 For all permit applications involving demolition, new construction and remodels/additions of residential buildings greater than 500 square feet, the compliance form will include a deconstruction check list indicating waste reuse and recycling methods being proposed by the applicant.~~

(c) A new subsection is added to read as follows:

~~101.4.1.2 Remodels of existing buildings. For an interior remodel where the work authorized by a building permit under Chapter 10-5, "Building Code," B.R.C. 1981, does not alter more than 500 square feet of the existing conditioned space.~~

(d) Section 101.4.2.2, "Additions, alterations or repairs" is amended by adding the following new paragraph:

~~1. In residential construction, additions to existing buildings may choose any of the compliance provisions found in chapters 4 or 5, including the prescriptive methods in section 502.2.5. Only the addition is required to comply with this energy conservation code. Where the method chosen for compliance includes energy conservation improvements in the existing floor area necessary for the new area or addition to comply, the entire building must be included in the calculations. Interior remodels affecting more than 500 square feet may choose a compliance path as required in 101.3.1 or demonstrate improvements in the envelope where those framing elements are exposed during construction. Exposed wall framing cavities shall be insulated to their fullest depth but in no case shall the insulation R-value be less than R-13. Exposed or accessible floor/ceiling assemblies, attics, basements and crawlspaces separating conditioned spaces from unconditioned spaces must be insulated to their fullest depth or, wherever possible, meet the prescriptive requirements of table 502.2.5. Replacement windows shall have a maximum U-factor of 0.45. Replacement glazed doors shall meet or exceed the double-glazed U-factors of table 102.5.2(1). Replacement non-glazed doors shall meet or exceed the U-factors described in table 102.5.2(2). Replacement building mechanical systems and equipment shall comply with Section 503 with the exception of 503.3.1 load calculations. Replacement service water heating equipment shall comply with Section 504.2. Exposed service water heating pipes shall comply with Section 504.5 for pipe insulation. All existing or new showerheads shall comply with Section 504.6 for conservation of hot water.~~

(e) A new section 101.5, "Demand Controllers Required in Electrically Heated Residential Buildings," is added:

~~(a) All electrically heated residential buildings shall have an automatic demand controller installed in each dwelling unit or in each separately metered electrical system. An automatic demand controller is defined as a device that automatically regulates the use of major electrical appliances and controls electrical demand load without human intervention.~~

~~(b) Individual energy meters are required for each dwelling unit in multi-family housing.~~

~~(f) SECTION 104, "CONSTRUCTION DOCUMENTS" is repealed and reenacted to read as follows:~~

~~104.2 General. Construction documents and other supporting data shall be submitted in one or more sets with each application for a permit. The construction documents and designs submitted under the provisions of this chapter shall be prepared by and bear the stamp of a Colorado licensed professional engineer or architect. Documents submitted for the purposes of subsection 503.3.1 load calculations shall be submitted by a Colorado licensed engineer, architect or a professional who demonstrates the knowledge and experience to perform such calculations. Where special conditions exist, the code official is authorized to require additional construction documents to be prepared by a licensed professional.~~

~~Exceptions:~~

~~1. The code official may waive the submission of construction documents and other supporting data if the official finds that the nature of the work does not require review of the documents or data to obtain compliance. This waiver authority does not apply to documents required to be prepared by a licensed architect or engineer.~~

~~2. Single family dwellings using the prescriptive approach in Chapter 6 or any of the design packages in Chapter 5 and submitting worksheets provided by the United States Department of Energy, the International Code Council, or the city manager.~~

~~(g) Section 105.3, "Final Inspection," is amended by adding a new paragraph to read:~~

~~The applicant must provide at time of final inspection of a commercial building written verification which bears the stamp of a licensed architect or engineer or special inspector as described in section 106.3.5 of the 1997 International Building Code that the structure conforms with the provisions of section 101.3.2.~~

~~(i) Table 302.1, Exterior Design Conditions:~~

~~Winter, Design Dry bulb (F) 8F~~

~~Summer, Design Dry bulb (F) 91F~~

~~Summer, Design Wet bulb (F) 59F~~

~~Degree days heating 5554~~

Degree days cooling 649

Climate Zone 13b

(j) Section 502.1.1, is amended by adding a second paragraph to read:

Where the foundation walls, crawlspace or similar areas are insulated, the ground shall be provided with a vapor barrier of four mil polyethylene or equivalent, lapped at least one foot at each joint and extending up the foundation wall a minimum of six inches.

(k) Section 502.2.5, "Prescriptive path for additions and window replacements," is repealed and reenacted to read:

As an alternative to demonstrating compliance with Section 402 or 502.2, additions with a conditioned floor area less than fifty percent of the floor area as described in section 101.4.2.2 to the existing single family residential buildings and structures shall meet the prescriptive envelope component criteria in Table 502.2.5 for the designated heating degree days (HDD) applicable to the city. The U factor of each individual fenestration product (windows, door and skylights) shall be used to calculate an area-weighted average fenestration product U factor for the addition, shall not exceed the applicable listed values in Table 502.2.5. For additions, the total area of fenestration products shall not exceed twenty-five percent of the gross wall and roof area of the addition. The R-values for opaque thermal envelope components shall be equal to or greater than the applicable listed values in Table 502.2.5. Replacement fenestration products (where the entire unit, including the frame, sash and glazing, is replaced) shall meet the prescriptive fenestration U factor criteria in Table 502.2.5 for the designated HDD applicable to the city.

1. Replacement skylights shall have a maximum U factor of 0.5.

2. There is no maximum area limitation on the amount of glazing that may be located in south facing walls provided: (a) the windows are provided with operable insulated shutters or other devices which, when drawn or closed, shall cause the window area to reduce maximum outward heat flows in accordance with table 502.1.4.1 and (b) the window areas are shaded or otherwise protected from direct rays of the sun during periods when mechanical cooling is required. As used herein, "south facing wall" means any glazed exterior wall that is oriented within thirty degrees of due south and not more than thirty degrees from the vertical.

(l) Section 701.1, "General," is repealed and reenacted to read:

Commercial buildings shall meet the requirements of ASHRAE/IES 1999 Energy Code for Commercial and High-Rise Residential Buildings.

Exception: Commercial buildings that comply with Chapter 8.

(b) Section 101.4.3 Additions, alterations, renovations and repairs. A new sub-section is added previous to the exceptions to read as follows:

101.4.3.1 All permit applications involving demolition, new construction and remodels and/or additions of residential buildings greater than 500 square feet shall meet the requirements of this code and Chapter 10-7-5 "Green Points", B.R.C. 1981 as applicable.

(c) Exception 3 of section 101.4.3 is repealed and reenacted as follows:

3.1. For an interior remodel of a residential structure, where the work authorized by a building permit under Chapter 10-5, "Building Code," B.R.C. 1981, does not alter more than 500 square feet of the existing conditioned space, existing ceiling, wall, or floor cavities exposed during construction are exempt from meeting the provisions for new construction provided that exposed wall framing cavities are insulated to their fullest depth, but no less than R-13, and attics and exposed or accessible floor/ceiling assemblies separating conditioned spaces from unconditioned spaces are insulated to their fullest depth, but no less than R-38 wherever possible. All replacement fenestration shall meet the prescriptive requirements of Table 402.1.1 or 402.1.3. Portions of basements and crawlspaces separating conditioned spaces from unconditioned spaces shall meet the prescriptive requirements of Table 402.1.1 or 402.1.3 for climate zone 5 wherever possible. The provisions of section 402.2 shall apply.

3.2. For additions to residential structures where the work authorized by a building permit under Chapter 10-5, "Building Code," B.R.C. 1981, does not add more than 500 square feet, building envelope components shall meet the provisions of Table 402.1.1 or 402.1.3, and applicable portions of Chapter 10-7-5 "Green Points", B.R.C. 1981. The provisions of section 402.2 shall apply.

3.3. Remodels of non-residential structures where the work authorized by a building permit under Chapter 10-5, "Building Code," B.R.C. 1981, does not alter more than 500 square feet.

(d) Section 103.1.1 is repealed and reenacted as follows:

Section 103.1.1 Above Code Programs. Except for those residential structures and portions of structures exempt from this code, the requirements of Chapter 10-7-5 "Green Points", B.R.C. 1981 shall be used to demonstrate compliance with the energy efficiency components of this code.

(e) SECTION 104.1 is repealed and reenacted to read as follows:

104.2 General. Construction documents and other supporting data shall be submitted in one or more sets with each application for a permit. The construction documents and designs submitted under the provisions of this chapter shall be prepared by and bear the stamp of a Colorado licensed professional engineer or architect. Documents submitted for the purposes of section 404 and 506 shall be submitted by a Colorado licensed engineer, architect or a professional who demonstrates the knowledge and experience to perform such calculations. Where special conditions exist, the code official is authorized to require additional construction documents to be prepared by a licensed professional.

Exceptions:

1. The code official may waive the submission of construction documents and other supporting data if the official finds that the nature of the work does not require review of the documents or data to obtain compliance. This waiver authority does not apply to documents required to be prepared by a licensed architect or engineer.

(f) Section 105.3, "Final Inspection," is amended by adding a new paragraph to read:

The applicant must provide at time of final inspection of a commercial building written verification which bears the stamp of a licensed architect or engineer or special inspector as described in section 109.3.7 International Building Code that the structure conforms with the provisions of Chapter 5.

(h)(g) Section 202, the definition of "Code Official" is repealed and reenacted to read:

Code official is the city manager.

Chapter 8 Fire Prevention Code

Adopted by Ordinance No. 5493. Amended by Ordinance No. 7304. Derived from Ordinance Nos. 3798, 4154, 4485, 4636, 4680, 4799, 4946, 4967, 4969, 5029, 5125, 5194, 5245, 5271, 5382.

10-8-1 Legislative Intent.

The purpose of this chapter is to protect public health and safety by regulating the use, condition, construction, alteration, and repair of property, structures, and occupancies in the city in order to prevent the ignition and spread of fire and risk of harm to persons or property from fire and other causes. The city council hereby adopts the 2003-2006 edition of the International Fire Code with certain amendments, additions, and deletions thereto found to be in the best interests of the city. The standards provided in this chapter shall be used, insofar as they are applicable, in determining whether a condition is a hazardous one, whether any work that has been performed has been done in an approved manner, or whether any equipment is of an approved type or quality, and in any determination concerning fire hazards and fire safety in the city building code not specifically provided for therein.

10-8-2 Adoption of International Fire Code with Modifications.

- a) The 2003-2006 edition of the International Fire Code of the International Code Council are adopted by reference as the City of Boulder Fire Code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.
- b) The Fire Code adopted by subsection (a) of this section is amended in the following places:

- 1) Section 102.3 is repealed and reenacted to read:

~~102.3 Change of use or occupancy. The provisions of the building code shall apply to all buildings undergoing a change of occupancy. No change shall be made in the use or occupancy of any structure that would place the structure in a different division of the same group or occupancy or in a different group of occupancies, unless such structure is made to comply with the requirements of this code and the International Building Code.~~

- 2) ~~Section 102.4 is repealed and reenacted to read:~~

~~102.4 Application of building code. The design and construction of new structures shall comply with the building code. Repairs, alterations and additions to existing structures shall comply with the building code.~~

- 3) ~~Section 102.5 is repealed and reenacted to read:~~

~~102.5 Historic buildings. The construction, alteration, repair, enlargement, restoration, relocation or movement of existing buildings or structures that are designated as historic buildings when such buildings or structures do not constitute a distinct hazard to life or property shall be in accordance with the provisions of the building code.~~

- 4)2) Section 103.1 is repealed and reenacted to read:

103.1 Division of Fire Safety

A Division of Fire Safety is established within the fire department under the direction of the manager, which shall consist of such fire department personnel as may be assigned thereto by the manager. The function of this division shall be to assist the manager in the administration and enforcement of the provisions of this code.

- 5)3) Section 103.4, is repealed and reenacted to read:

103.4 Liability

The fire code shall not be construed to hold the City of Boulder or any of its employees or agents responsible for any damage to persons or property by reason of inspection or reinspection or failure to inspect or reinspect as herein provided or by reason of the approval or disapproval of any equipment as herein provided.

No employee of the city who enforces, attempts to enforce, or is authorized to enforce the fire code renders him or herself or the city liable to third parties for any damage or injury to the person or property of such third parties as a result of the enforcement or non-enforcement of the fire code. The city assumes no duty of care by virtue of the adoption of the fire code. No person is justified in relying upon the approval of a plan, the results of an inspection, or the issuance of a certificate of inspection or occupancy, and such approvals, inspections, and certificates are not a guarantee that the plan or work so approved, inspected, or certificated in fact complies with all

requirements of the fire code. It is the duty of the person owning, controlling, or constructing any building or structure to insure that the work is done in accordance with the requirements of the fire code, and it is such persons and not the city who are responsible for damages caused by negligent breach of such duty.

~~64)~~ 104.4 Identification, is repealed and reenacted to read:

104.4 Identification.

For the purposes of this section, the term "fire code official" includes all firefighters appointed pursuant to Section 2-5-4, "Identification Card for Firefighters," B.R.C. 1981.

~~75)~~ Section 105.6 is repealed and reenacted to read:

105.6 Required operational permits. The fire code official may issue an operational permit for the following operations:

- a) 105.6.154, Explosives
- b) 105.6.340, Open Burning
- c) 105.6.332, Open Flames and Candles
- d) 105.6.376 Pyrotechnic special effects material
- e) 105.6.44 is amended by the addition of the following:

105.6.443 Temporary Membrane Structures, tents and canopies. An operational permit may be issued with the construction permit that will be issued by the building official.

8) Section 105.7 is repealed and reenacted to read:

105.7 Required construction permits. All construction permits will be issued by the building official. The Division of Fire Safety will be the approving authority for following:

- a) 105.7.1 Automatic fire-extinguishing systems
- b) 105.7.34 Fire alarm and detection systems and related equipment
- c) 105.7.45 Fire pump and related equipment
- d) 105.7.112 Standpipe systems

9) Sections 108, Board of Appeals is repealed and reenacted to read:

108 Board of Appeals

- a) A person refused a building permit or refused approval of work done under a permit on the grounds that the proposed or completed construction fails to comply with this code or any other city building code may appeal the decision to the board of zoning adjustment and building appeals on the grounds that:

- 1. The denial was based on an erroneous interpretation of such code by the city manager; or

2. The city manager has erroneously failed to approve an alternate material or method pursuant to Section 104.9 of the fire code prior to its installation or use. In determining such an appeal the board shall apply the standards of Section 104.9 of the fire code.

The city manager has the burden of proof under paragraph 1 above. The appellant has the burden of proof on appeals brought pursuant to paragraph 2. The board shall determine the appeal and decide whether the city manager's interpretation or application of such code was correct or in error at a hearing under the procedures described by Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981.

- b) Any person whose building permit has been suspended or revoked may appeal such action by the city manager to the board of appeals on the ground that the suspension or revocation was based on an error in fact or an erroneous application of this code to the facts. The city manager has the burden of proving the facts upon which the manager relies at such a hearing.
- c) An applicant for an appeal to the board of appeals shall pay the fee prescribed by Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981.
- d) The city manager may apply to the board of appeals, without fee, for an advisory opinion concerning alternative methods, applicability of specific requirements, approval of equipment and materials, and granting of special permission as contemplated in Sections 104.8 or 104.9 of the fire code.
- e) The board of appeals has no authority to interpret Chapter 1 (the administrative requirements) of this code except as expressly provided in this section, nor, because this code sets minimum standards, to waive any requirement of this code.

10) Appeals Concerning Existing Conditions

- a) Any aggrieved person who has been issued an order or other notice of violation under this fire code, other than a summons and complaint, under Section 102.1 and 102.2 concerning legally existing conditions in a structure based upon the city manager's determination that such conditions constitute a distinct hazard to life or property, and who believes the alleged violation to be factually or legally contrary to the requirements of this fire code or rules and regulations issued pursuant to this fire code may appeal the order or notice to the board of building appeals in a manner provided by the board under the procedures prescribed by Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981. An appellant shall file the appeal with the board within thirty days from the date of service of the notice of alleged violation. The appellant may request enlargement of time to file if such request is made before the end of the time period. The city manager may extend for a reasonable period the time to file with the board if the applicant shows good cause therefor.

- b) Any person aggrieved by a decision of the city manager upon a reinspection that any or all of the violations alleged in the notice of violation have not been adequately corrected may appeal such determination by filing a notice of appeal with the board of appeals within ten days of the date of the reinspection.
- c) The appeal will be conducted under the procedures of Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981. The burden of proof is on the city manager to establish an alleged violation.
- d) If the board of appeals affirms the determination by the city manager, it shall grant the person a reasonable period of time to correct the violation appealed. Any subsequent determination by the manager as to whether the violations alleged in the notice of violation have been adequately corrected is final.
- e) The fee for filing an appeal is that prescribed by Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981.
- f) An aggrieved person seeking judicial review of a decision of the board of appeals made under this section shall file a complaint for such review within thirty days after the date of the decision under Colorado Rule of Civil Procedure 106(a)(4).
- g) If no person appeals a notice of violation to the board of appeals, the provisions of the notice becomes final when the time for filing an appeal with the board has expired. An order appealed to court is final unless a stay is in effect.
- h) If a person to whom the city manager has issued a notice of violation does not appeal to the board, such person may not raise as a defense to any subsequent prosecution in municipal court for a violation of an order that the conditions alleged to be violations in the notice of violation were not in fact or law violations.
- i) If the city manager determines that the subject of an order or notice issued under this fire code constitutes an immediate hazard to the public health, safety, or welfare, the manager may order immediate compliance. Persons subject to such orders shall comply forthwith, but shall be entitled to a prompt post-compliance appeal hearing before the board of building appeals under the procedures specified in this section.
- 11) Chapter 2, "Definitions," is amended by the addition of the following additional definitions:

"Accessible Private Drive" means a twenty foot unobstructed clear width with a twelve foot hard-all weather drivable surface which can support forty tons on ten wheels and has a SU-30 turning radius for the fire department's fire apparatus.

"Attached Dwelling Unit" means a structure which contains more than one dwelling unit regardless of any fire separation features.

"Fire code official" means the city manager or the manager's delegate.

"Detached Dwelling Unit" means a structure which contains only one dwelling unit together with any building accessory to the dwelling unit, and is structurally independent of other structures or occupancies, and has a fire separation distance of not less than six feet from other structures.

"Emergency Vehicle Access Street" means a street meeting the requirements of this code and the City of Boulder Design and Construction Standard.

"Fire Access Distance" means the distance between two hydrants, or the distance from a hydrant to any external portion of any building or buildings or the distance from the center line of a non-dead-end emergency vehicle access street to the point on the curb on such street from which access to such building is gained, measured along public or private (but accessible to fire equipment) roadways or fire lanes, as would be traveled by motorized firefighting equipment.

"Fire Department" or "Municipal Fire Department" means the Fire Department of the City of Boulder, Colorado.

"House Behind a House" exists if the dwelling unit is on a lot which does not front on an emergency vehicle access street meeting the requirements of Sections 503.1 and 503.2, or the dwelling unit is not served by a fire lane meeting the requirements of Section 502.1 from an emergency vehicle access street to an entrance to the dwelling unit, and access from the emergency vehicle access street to the unit is obstructed by any structure.

"Portable Appliance" Means any appliance that is designed to be moved or relocated on a daily basis without any special knowledge. This includes, but not limited to, box or oscillating fans, power tools, vacuums cleaners and floor polishers.

"Tank Truck" means any single rear axle, self-propelled motor vehicle, equipped with a cargo tank mounted thereon, and used for the transportation of flammable and combustible liquids, but this term excludes any combination of units, such as a semi-trailer. Said tank truck shall not exceed 35,000 GVW, and its total capacity shall not exceed 3,000 gallons.

"Transport route" means:

- (1) Denver-Boulder Turnpike (U.S. 36) from the south city limits to Baseline Road.
- (2) Foothills Parkway (Colorado 157) from U.S. 36 to the north city limits.
- (3) 28th Street from Baseline Road to the north city limits.
- (4) Arapahoe Avenue from 28th Street to the east city limits.
- (5) Canyon Boulevard from 28th Street to the west city limits.

- (6) Pearl Street/Pearl Parkway from 28th Street to the east city limits.
- (7) Longmont Diagonal (Colorado 119) as it passes through the city limits.
- (8) Valmont Road from the Foothills Parkway (Colorado 157) to Airport Road and Airport Road.
- (9) Baseline Road from the east side of 28th Street (U.S. 36) to Foothills Parkway (Colorado 157).

"Unobstructed By Any Structure Above Grade" means that no structure blocks the view so that there is not at least one entire face of the building substantially visible in a direct line over the lot upon which the building sits from the nearest emergency vehicle access street, and no structure would significantly interfere with a stream of water being sprayed on the building by a nozzle mounted on a fire truck parked on the nearest emergency vehicle access street. For the purposes of this definition, a legal fence shall not be considered an obstruction if it has a gate which opens at least three feet wide, which is not locked, and through which firefighters on foot have ready access to the building within the distance limitations.

- 12) Section 307 is repealed and reenacted to read:

307 Open Burning and Recreational Fires.

- 1) No person shall kindle or maintain outside of a habitable building any bonfire or burn or permit to be burned any trash, paper, rubbish, wastepaper, wood, weeds, brush, plants, or other combustible or flammable material anywhere within the city limits or anywhere on city property outside of the city limits, except when:
 - a) The burning is in the course of an agricultural operation in the growing of crops as a gainful occupation and presents no fire hazard to other property in the vicinity;
 - ~~b) The burning is solely for cooking food for human beings, and said cooking is done in a manner consistent with safe practice;~~
 - e)b) The burning is a smokeless flare or a safety flare used to indicate some danger to the public;
 - ~~d)c)~~ The burning is a training fire conducted by the fire department, or is a training fire conducted by another fire department, or privately for industrial or commercial fire training purposes; or
 - e)d) The burning is solely for the purpose of fuels mitigation to alleviate wildland fire potential, or weed abatement to assist restoration of native plants, and.
- 2) Mobile or portable type outdoor fire places are prohibited within the city limits or anywhere on city property outside of the city limits.

13) Section 308 is repealed and reenacted to read:

308 Open Flames. Open flames are prohibited within the city limits.

Exception: Where a permit is obtained through the Boulder Fire Department, Division of Fire Safety.

14) Exceptions 1 and 2 to Section 311.2.2., "Fire protection," are repealed.

15) A new Section 401.3.1.1 Fire Alarm Fees, is added to read:

a) After the fire department has responded to two alarms of fire from any property or address in any calendar year, the city manager may impose a charge for each additional response to an alarm which originates from the property during the same calendar year, in accordance with the schedule prescribed by Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981.

b) The city manager may waive a charge imposed for a fire alarm response if the property owner of record demonstrates that such alarm was caused by a fire or the threat of a fire, or that such alarm was not under the property owners control. It shall not be a defense that the alarm system is malfunctioning, unless the owner or manager is able to demonstrate that said alarm system is currently being serviced to remedy the problems being encountered.

c) If any fee is not paid within thirty days after demand therefor has been mailed to the record owner of the building, the city manager may certify the amount due to the County Treasurer pursuant to Section 2-2-12, "City Manager May Certify Taxes, Charges, and Assessments to County Treasurer for Collection," B.R.C. 1981.

16) Section 503.2.1 is repealed and reenacted to read:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6,096 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 15 feet (4,572 mm).

17) Section 508.5.1 is repealed and reenacted to read:

508.5.1 Where required. Location and spacing of fire hydrants will be in accordance with the City of Boulder Design and Construction Standards.

18) Section 603.4 is repealed and reenacted to read:

603.4 Portable unvented heaters. Portable unvented fueled-fired heating equipment are prohibited.

- 19) Section 901.6, is amended by the addition of the following:

If any building, structure, or portion of the same is protected by a fire detection, alarm and extinguishing system or the owner has agreed with the city manager so to protect the building or structure or portion thereof, then no person shall shut off or disable such system, and no owner, manager, or tenant of such space shall fail to prevent the shutting off or disabling of such system. It is a specific defense to a charge of violation of this section that the system was shut off in order to perform maintenance work on the system, that it was shut off for the minimum period of time necessary to perform such work, and that maintenance personnel were on the premises performing such work during the entire time the system was shut off. The minimum penalty for violation of this section, no portion of which may be suspended, is a fine of \$1,000.00.

- 20) Section 903 is amended by the addition of the following:

~~a) Design. When hydraulically designing a sprinkler system, the system demand point shall be at least 10 psi and 200 gpm below the actual supply curve; or a minimum design area of 2,500 square feet for Light and Ordinary hazard, and 3,000 square feet for Extra hazard systems, with the corresponding density, shall be used to design the system. However, if the building code or fire code have specified minimum areas or densities, those minimums shall be used and the sprinkler demand point must be 10 psi and 200 gallons per minutes below the actual water supply curve.~~

~~Exception: Sprinkler systems designed under the NFPA 13D method for One and Two Unit Dwellings shall have a "pressure required" at least 20 psi below the "pressure available."~~

~~b) Any new building or change of occupancy of an existing building that does not have approved fire department access as required by the fire code may be required by the fire code official to have an automatic fire sprinkler system installed regardless of the building size.~~

- 21) Section 903.1, is repealed and reenacted to read:

Section 903.1 General. An automatic sprinkler system shall be installed in the occupancies and locations as set forth in this section. Changes in use, as defined in Section 10-5-2, "Adoption of International Building Code with Modifications," B.R.C. 1981, shall comply with the provisions listed below.

- 22) Section 903.2.1 is amended by the addition of the following:

903.2.1 Group A. All basements classified as, or a part of, a Group A occupancy shall be provided with an automatic sprinkler system regardless of the gross square footage.

- a) Section 903.2.1.1 Group A-1, # 1 is repealed and reenacted to read.

1. The fire area exceeds 2,000 square feet (185.8m²)

b) Section 903.2.1.2 Group A-2, # 1 is repealed and reenacted to read.

1. The fire area exceeds 2,000 square feet (185.8m²)

c) Section 903.2.1.3 Group A-3, # 1 is repealed and reenacted to read.

1. The fire area exceeds 2,000 square feet (185.8m²)

d) Section 903.2.1.4 Group A-4, # 1 is repealed and reenacted to read.

1. The fire area exceeds 2,000 square feet (185.8m²)

23) A new Section 903.2.1.6, Group B occupancies, is enacted to read: an automatic sprinkler system shall be provided throughout all new Group B occupancies greater than 2,000 gross square feet (185.8m²).

24) Section 903.2.2, Group E. #1 is repealed and reenacted to read:

a) Throughout all Group E fire areas greater than 2000 (185.8m²) in area.

b) Exception is repealed.

c) All basements classified as, or a part of, a Group E occupancy shall be provided with an automatic sprinkler system regardless of the gross square footage

25) Section 903.2.3, Group F-1 is repealed and reenacted to read:

An automatic sprinkler system shall be provided throughout all new Group F occupancies greater than 2000 square feet (185.8m²).

26) Section 903.2.6, Group M is repealed and reenacted to read:

An automatic sprinkler system shall be provided throughout all new Group M occupancies greater than 2000 square feet (185.8m²).

27) Section 903.2.7 is amended by the addition of the following:

a) Exception 1: Detached and two unit attached dwelling units are not required to have an automatic fire sprinkler system if they are not used as residential board and care occupancies, and the distance, unobstructed by any structure above grade, landscaping or topographical obstructions, from the curb face of the emergency vehicle access street on which the structure is addressed, to a face of the unit containing an entrance, is not greater than one hundred feet.

b) A detached dwelling unit is not required to have an automatic fire sprinkler system if it is not used as a residential board and care occupancy, and is located on a lot larger than 14,500 square feet, in which the driveway meets the requirements of a fire department accessible private drive, and extends without interruption from the nearest emergency

vehicle access street on which the structure is addressed, to the side of the building which contains the main entrance.

- c) If more than one principal building is constructed on a lot pursuant to the exceptions listed in Section 9-3.2-16, "Two Detached Dwelling Units on a Single Lot," B.R.C. 1981, then each building other than the building closest to an emergency vehicle access street on which the structure is addressed, shall be protected by an approved and supervised automatic sprinkler system in accordance with Section 903.3.

Exception: If a lot has frontage on two streets and each street is an emergency vehicle access street, then two buildings, each closest to their respective streets, shall not be required to be so protected by this subsection.

- d) Houses behind houses shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3.

- 28) Section 903.2.8 Group S-1, is repealed and reenacted to read:

An automatic sprinkler system shall be provided throughout all new Group S-1 occupancies greater than 2000 square feet (185.8m²).

- 29) Section 903.2.9 Group S-2, is repealed and reenacted to read:

An automatic sprinkler system shall be provided throughout all new Group S-2 occupancies greater than 2000 square feet (185.8m²).

- 30) A new section is added to read:

Section 903.2.12.3 Group U Occupancies. An automatic sprinkler system shall be provided throughout all new Group U occupancies greater than 2,000 gross square feet (185.8m²).

- 31) A new Section 903.2.12.4 is added to read:

Any occupancy, structure or unit required to be protected by a sprinkler system by one provision of the fire code or the building code, and falling within an exception to a requirement of such protection to any other provision of the fire code or building code, shall be so protected.

- 32) A new Section 903.2.12.5 is added to read:

If the floor area of an addition to any existing occupancy as described in 903.1 through 903.2.12.3 above is greater than either fifty percent of the existing gross floor area or 2,000 square feet, and the total altered structure would be required to be protected by a sprinkler system by this section if it were new construction, then the entire addition shall be protected throughout by an approved and supervised automatic sprinkler system, installed in accordance with Section 903.3.1. Said sprinkler system shall be continuous throughout the addition up to a fire barrier built in accordance with the building code for that occupancy.

- 33) Section 903.3.1.1.1 Exception 4 is repealed
- 34) Section 903.3.5.1 is repealed
- 35) Section 903.3.5.1.2 is repealed and reenacted to read:

903.3.5.1.2 Residential combination services. Combination of domestic and fire service lines shall be in accordance with the City of Boulder Design and Construction Standard.

- 36) Section 903.4.1 is repealed and reenacted to read:

903.4.1 Signal. ~~Valve supervision and water flow alarm and trouble signals~~ Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an Underwriters Laboratory listed central station.

Exception: Underground key or hub valves in roadway boxes provided by the municipality or public utility need not be supervised.

- 37) Section 903.4.2 is repealed and reenacted to read:

903.4.2 Alarms. Approved audible and visual devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided in the interior of the building in accordance with NFPA 72 and on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler shall actuate the building fire alarm system.

- 38) A new Section 903.7, Response Time Sprinkler Requirement, is adopted to read:

- a) It is the city's goal, as reflected in the Boulder Valley Comprehensive Plan's urban fire service criteria, that land not be annexed unless the response time for service is normally six minutes or less. Nonetheless, there may be occasions when annexation outside the existing six minute limit but within eight minutes or less is, due to special circumstances, in the city's best interest. Before such land is annexed, consideration must be given to the need for and provision of additional fire stations and equipment to serve properly the area being annexed and to bring it within the six minute limit eventually. Protection by a sprinkler system as required by subsection (c) below is a temporary substitute, and is not intended to eliminate the requirement for additional fire stations and equipment.
- b) Land used or to be used for residential purposes will not normally be annexed if it is outside the six minute limit unless excepted from this policy by subsection (d) below. All new dwelling unit on land annexed outside the six minute limit shall be protected by an automatic fire sprinkler system.
- c) On land annexed after the effective date of this chapter and not excepted under subsection (d) below, all new non-residential construction and any existing non-residential structures

shall be provided throughout with an approved and supervised fire sprinkler system installed in accordance with Section 903.3.1 adopted in Chapter 10-8, "Fire Prevention Code," B.R.C. 1981, if such land is outside of the six minute City of Boulder fire response time from city fire stations housing at least one pumper which is rated at one thousand gallons per minute pumping capacity or greater, and which requires a crew of three or more for proper operation.

- d) The requirements of this Section may be waived by the city council by a provision doing so in an annexation agreement incorporated into an annexation ordinance if, in the opinion of the city council it is in the city's best interest to do so because:

(1) Of changed or special conditions;

(2) The land to be annexed is located on Arapahoe Avenue west of the city; or

(3) The land to be annexed is below the blue line, west of Broadway, south of Norwood Avenue, and north of Table Mesa Drive.

Exceptions (2) and (3) above reflect the fact that it is not anticipated that new fire stations will be constructed to bring these areas within the six minute limit. In other areas it is anticipated that new fire stations will eventually be constructed or upgraded to bring the service area within this limit.

- 39) A new Section 903.8, Fire Suppression Systems. is added to read:

903.8 Fire Suppression Systems

All existing structures in the following categories shall be protected throughout by an approved and supervised automatic sprinkler system installed in accordance with the provisions of Section 903.3.1 Except that any structure or portion thereof required by this section to be so protected prior to the effective date of this ordinance shall be immediately so protected:

- a) R-1 and R-2 occupancies greater than fifty five feet high.
- b) Hotels and motels. Exceptions: One- and two-story structures, and three story structures with an exterior exit balcony for all rooms above grade.
- c) Congregate residences classified as Group R-4.
- d) Group I-1 and I-2 occupancies as defined in the fire code.
- e) Basements greater than 2,000 gross square feet.

Exception 1. Basements below R occupancies.

Exception 2. Basements used exclusively for "services to the building," such as electric meters, compressors, and so forth. But "services to the building" shall not include any storage (either combustible or non-combustible), nor routine human occupancy.

Exception 3. Basements where there is provided at least 20 square feet of opening entirely above the adjoining ground level in each fifty lineal feet or fraction thereof of exterior wall in the basement on at least one side of the building. Openings shall have a minimum dimension of not less than 30 inches, and shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that firefighting or rescue cannot be accomplished from the exterior.

When openings are provided on only one side and the opposite wall of said basement is more than seventy-five feet from such openings, said basement shall be provided with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of an exterior wall of the basement.

- f) All Group A occupancies used primarily for dining, drinking or motion picture viewing, shall be protected throughout by an approved and supervised automatic sprinkler system installed in accordance with the provisions of Section 903.3.1 when said Group A occupancy is greater than 2,000 gross square feet in size.

For Group A occupancies described in this part (f) not currently provided with complete automatic sprinkler protection, this paragraph shall take effect during a remodel or renovation which 1) requires one or more building permits with a combined valuation (labor and materials) of \$30.00 per square foot or more within any calendar year, and 2) necessitates business closure for a combined period of five calendar days or more, in the aforementioned calendar year.

- 40) Section 907.15, is repealed and reenacted to read:

Section 907.15 Monitoring. Fire alarm systems shall be supervised by an Underwriters Laboratory listed central station.

- 41) Section 3301.2.4.2, is amended by the addition of the following:

The city manager shall require a certificate of insurance to protect persons and property from death or injury as a result of the fireworks display, in an amount not less than \$150,000.00 per person injured and \$600,000.00 per incident. The insurance shall cover any liability of the city or any employee or agent thereof arising out of or connected with the permit and the fireworks display permitted thereunder. Before any permit for a fireworks display is issued, the applicant shall comply with the provisions of this Section.

- 42) Section 3401.4 is amended by the addition of the following:

- 1) A regular permit allows a permittee on a transport route to take delivery of flammable and combustible liquids from any delivery vehicle or from a tank truck where the

premises are not located on a transport route. Upon payment of the fee provided in Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981, the city manager shall issue to an applicant therefor a permit to receive deliveries of flammable and combustible liquids at a particular location or outlet if the manager finds that:

- a) The outlet or location contains sufficient room to accommodate the delivery vehicle, so that the delivery vehicle is capable of being parked entirely within the property boundary lines of the outlet or location and in such a manner that no part of the vehicle extends into any street, sidewalk, or alley while the vehicle is off-loading and no backing of the vehicle either into or out of station property is necessary;
- b) The entrance and exit access-ways for the delivery vehicle are so arranged that no obstruction of traffic will result from the vehicle entering or leaving the outlet or location; and
- c) The storage tanks for flammable and combustible liquids are located underground and constructed in accordance with the applicable provisions of this code, unless specifically allowed to be installed above ground by other sections of this code.

2) A special permit allows a permittee to take delivery of flammable and combustible liquids on premises outside of transport routes from specified delivery vehicles other than a tank truck. The owner or person in control of any outlet or location holding a regular permit may, upon payment of the fee provided in Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981, apply to the city manager for a special permit allowing delivery with a vehicle other than a tank truck as defined in Section 221. The city manager shall schedule with the applicant a simulated demonstration with an empty vehicle of the size and design that the applicant will use under the permit. The applicant shall furnish the vehicle and driver at its cost. The simulated test shall be observed by the city manager who shall issue the special permit if the manager finds that:

- a) The outlet or location contains sufficient room to accommodate the delivery vehicle, so that the delivery vehicle is capable of being parked entirely within the property boundary lines of the outlet or location in such a manner that no part of the vehicle shall extend into any street, sidewalk or alley while the vehicle is off-loading, and no backing of the vehicle either into or out of the station property is necessary;
- b) The entrance and exit access-ways for the delivery vehicles are so arranged that no obstruction of traffic will result from the vehicle entering or leaving the outlet or location;
- c) The roads and streets are accessible to fire-fighting equipment and vehicles;
- d) The topography or configuration of the roads and streets does not involve potential difficulties in containing, fighting, or suppressing a fire or spill and does not impair the ability of a transport vehicle to maneuver safely; and

- e) The traffic congestion and flow of vehicles using the roads and streets will not create potential hazards to transport vehicles. Upon issuance, the permit will designate a specific route to be followed from the nearest transport route to the permit location and to return to the transport route. The permit will specify a vehicle capacity. Special permits are valid only between 3:00 a.m. and 6:00 a.m. But, for the delivery of gasoline or diesel fuel only, if the permit location is in an industrial zone, and is connected to a transport route by a former transport route established by ordinance 4636 (1982), and the applicant demonstrates that there were no incidents involving the discharge of gasoline or diesel fuel from delivery vehicles using the relevant portion of such former route, then the city manager may issue the special permit for such other hours as the applicant is able to demonstrate present no more hazard than delivery during the hours of 3:00 a.m. through 6:00 a.m.

3) Revocation or Suspension of Permits.

- a) Each of the following is a ground for revocation of a special permit:
 - 1. Failure of a transport vehicle to park entirely on the site while unloading;
 - 2. Obstructing of sidewalks while unloading;
 - 3. Backing the vehicle onto or off of the site;
 - 4. Obstruction of traffic while entering or leaving;
 - 5. Failure of a transport driver to follow the prescribed route to or from the permit location; or
 - 6. Failure to maintain a copy of the special permit on the premises.
 - 7. Failure of a transport driver to be present while off loading.
- b) Each of the following is a ground for suspension of a regular permit for up to fourteen days:
 - 1. Failure of a transport vehicle to park entirely on the site while unloading;
 - 2. Obstructing of sidewalks while unloading;
 - 3. Backing the vehicle onto or off of the site;
 - 4. Obstruction of traffic while entering or leaving; or
 - 5. Failure of a transport driver to follow the prescribed route to or from the permit location.

6. Failure of a transport driver to be present while off loading.
- c) When matters are brought to the attention of the city manager, which if substantiated would be grounds for revocation of a special permit or suspension of a regular permit, the manager shall issue a written notice thereof to the permittee containing a concise written statement of the violation constituting grounds for revocation or suspension and indicating that the revocation or suspension shall take effect fourteen days after the issuance of said notice unless the permittee appeals in accordance with the terms of Section 103.1.4.
 - d) All special permit revocations shall be for a period of six months, after which time the permittee may reapply for a special permit. During the period of revocation, the outlet may continue to operate with and according to the terms of a regular permit.
- 4) If, due to changed conditions, including without limitation changes in the transport routes, the manager has probable cause to believe that an existing regular or special permit no longer meets the criteria for issuance, the manager may require a new simulated demonstration. For purposes of notice and appeal, such proceedings shall be deemed a new application, but no additional fee shall be charged.
- 43) A new Section 3401.6, Prohibited Acts, is adopted to read:
- a) No owner and no person in control of any outlet or location shall accept deliveries of flammable or combustible liquids, unless such person has applied for and has been issued a permit therefor by the city manager.
 - b) No owner and no person in control of any outlet or location for which a permit to accept deliveries of flammable or combustible liquids has been issued shall accept deliveries of such liquids unless delivery is in compliance with all the provisions of this code and any conditions on the permit.
 - c) No person shall spill more than thirty-two fluid ounces of flammable or combustible liquid upon the ground.
 - d) No person shall fail to notify the fire department of any spill of flammable or combustible liquid of more than thirty-two fluid ounces at the earliest practicable moment after said spill has occurred.
 - e) Except to replace existing tanks, no person shall install any tanks used for the storage of any type of flammable or combustible liquid, or other hazardous material or waste in the floodplain as defined in Section 9-9-2, "Definitions," B.R.C. 1981. This prohibition is not retroactive, but no person shall use or maintain any tank installed in violation of this prohibition.
 - f) No person shall weld or cut by torch on the premises of a service station or allow or cause crankcase drainings to be spilled or poured onto the ground. No person shall dispose of

hazardous materials by dumping or pouring on the ground or into a storm drain or sanitary sewer or any connection thereto.

44) Section 3404.2 Tank Storage, is amended by the addition of the following.

- a) Except for fuel carried on tank trucks, above-ground storage of all Class I, II, and III flammable and combustible liquids in aggregate amounts of more than 500 gallons of such liquids on a single lot is allowed only in those areas of the city zoned "industrial." All installations shall comply in all respects with Chapter 34. Any tank intended for the bulk storage of any Class I, II or III flammable or combustible liquid may be stored above ground only in those areas of the City zoned industrial.
- b) All service stations, as defined in Chapter 22, regardless of zoning, shall install all bulk fuel storage tanks, oil storage tanks, and waste oil storage tanks underground and meet all requirements of Chapter 22 and Chapter 34. All bulk fuel storage tanks, oil storage tanks, and waste oil storage tanks in a residential zone shall be installed underground and meet all requirements of Chapter 34. Liquefied natural gas (LNG) or liquefied petroleum gas (LP-Gas) may be stored above ground in areas of the city zoned "industrial" and dispensed at such sites by a service station, if the city manager finds that such installation meets all the requirements of applicable fire codes before any dispensing of such fuel and proper and necessary on-site fire control devices are provided. The fee for review and inspection of such a specialized installation shall be as provided in Section 4-20-52, "Fire Code Permit and Inspection Fees," B.R.C. 1981.
- c) All underground tanks used for dispensing or bulk storage of any flammable or combustible liquid shall comply with the requirements of Chapter 34, any other pertinent city codes, including without limitation those concerning fire and flood, the Colorado State Oil Division, and the manufacturer's specifications for installation. Plans for installation shall be approved by the Colorado State Oil Division and the city flood control office, before the city may issue permits for construction, installation, and use of the tanks. No person shall install a used tank.
- d) No person shall install a tank or tanks for the dispensing or bulk storage of any flammable or combustible liquid, including temporary installations on construction sites, until such person has first submitted plans for the installation to the city manager and has received approval of such plans and of the installation.

45) A new Section 3406.2.8.2, Safety Devices Required for Outlets or Locations Accepting Deliveries of Flammable or Combustible Liquids, is adopted to read:

No owner and no person in control of any outlet or location shall accept deliveries of flammable and combustible liquids, and no person shall make deliveries of such liquids to any outlet or location, unless the following conditions are met during such delivery:

- a) The hose connection employed in making a delivery of flammable or combustible liquids contains the safety device known as a "glass elbow" to allow inspection of the contents of the delivery hose; and
- b) Any hose used in making deliveries of flammable or combustible liquids contains the apparatus commonly known as a tight-fill connection device to secure the off-loading device of the delivery vehicle to the intake structure of the storage tank.
- c) Exceptions to (1) and (2) above may be granted by the city manager for industrial installations if conditions warrant.

46) A new Section 3406.2.8.3, Full Compartment Dumps Required, is adopted to read:

Any person delivering flammable and combustible liquids in a vehicle that contains compartments larger than six hundred gallons shall empty each such compartment at a single stop, if any delivery of liquids is made at any outlet or location from any such compartment.

10-8-3 Violations.

Any violation of the International Fire Code, any appendix thereto adopted by this chapter, or of any order issued by the city manager thereunder is punishable as provided in Section 5-2-4, "General Penalties," B.R.C. 1981. Every twenty-four-hour period in which a violation exists constitutes a separate violation.

Chapter 10-9 Mechanical Code

Adopted by Ordinance No. 4636. Amended by Ordinance Nos. 6015, 7304. Derived from Ordinance Nos. 4327, 4502, 4548.

10-9-1 Legislative Intent.

The purpose of this chapter is to protect the public health and safety by regulating the installation, alteration, and repair of heating, ventilating, cooling, and refrigeration devices in structures in the city. The city council hereby adopts the 2003-2006 edition of the *International Mechanical Code* with certain amendments and deletions thereto found to be in the best interests of the residents of the city.

10-9-2 Adoption of the International Mechanical Code with Modifications.

(a) The 2003-2006 edition of the *International Mechanical Code*, including Appendices A thereto of the International Code Council, is hereby adopted by reference as the Mechanical Code of the City of Boulder or mechanical code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) Except as specified below, Chapter 1 is repealed. This code shall be administered in accordance with Chapter 1, "Administration," of the International Building Code as adopted,

with amendments, by Section 10-5-2, "Adoption of International Building Code with Modifications," B.R.C. 1981.

(1) Section 101.2, "Scope," ~~and exception 1 are~~ is adopted as an administrative provisions.

(2) Section 101.2.1, "Appendices," is adopted as an administrative provision. Appendix A is adopted as a part of this code.

(3) Section 101.3, "Intent," is adopted as an administrative provision.

~~(4) Section 105.4, "Material, equipment and appliance reuse," is adopted as an administrative provision.~~

(c) Section 301.7 "Electrical" is repealed and reenacted to read:

301.7 Electrical. Electrical wiring, controls and connections to equipment and appliances regulated by this code shall be in accordance with Chapter 10-6, "Electrical Code," B.R.C. 1981.

(d) Section 306.5 "Equipment and appliances on roofs or elevated structures" is repealed and reenacted to read:

306.5 Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877mm), such access shall be provided by a permanent approved means of access. The means of access shall start at no more than 8 feet (2438 mm) above finished grade or floor level and continue unobstructed to the equipment and appliances level service space. ~~Such access shall not require walking on roofs having a slope greater than 4 units vertical in 12 units horizontal.~~

~~Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:~~

~~1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762mm).~~

~~2. Ladders shall have rung spacing not to exceed 14 inches (356mm) on center.~~

~~3. Ladders shall have a toe spacing not less than 6 inches (152mm) deep.~~

~~4. There shall be a minimum of 18 inches (457mm) between rails.~~

~~5. Rungs shall have a minimum 0.75 inch (19mm) diameter and be capable of withstanding a 300 pound (136.1kg) load.~~

~~6. Ladders over 30 feet (9144mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m²) per square foot.~~

~~7. Ladders shall be protected against corrosion by approved means.~~

Catwalks installed to provide the required access shall be not less than 24 inches (610mm) wide and shall have railings as required for service platforms.

~~(e) Section 306.6, "Sloped roofs" is amended by the addition of a new section 306.6 to read:~~

(e) 306.6 Sloped roofs: Rooftop equipment support and clearances.

(1) Mechanical equipment placed, replaced, or resting over roofing shall be supported by curbs or legs which shall be flashed to the roofing and made watertight. Mechanical equipment shall include, but not be limited to, heating equipment, cooling and refrigeration equipment, ventilating fans, blowers, and other similar devices located on the roof.

(2) Flat roofs. On roofs having a pitch of less than 2 in 12, mechanical equipment shall be supported on a solid curb greater in size than the equipment which it serves. Curbs can be manufactured or built-in-place. If built-in-place, the curb shall be covered with metal of at least 26 gauge. All seams and miter corners of the metal shall be riveted and soldered so as to be weathertight. The curb shall be a minimum of 9 inches above the finished roof.

(A) Ducts less than four feet in width shall have at least twelve inches clearance from the finished roof surface to the bottom of the duct.

(B) Ducts between four feet and eight feet in width shall have at least twenty-four inches clearance from the finished roof surface to the bottom of the duct.

(C) Ducts over eight feet in width shall have at least thirty-six inches clearance from the finished roof surface to the bottom of the duct.

(3) Pitched Roofs. On roofs having a slope over a 2 and 12, mechanical equipment may be set on legs which provide a minimum of 11 inches clearance between the finished roof surface and the equipment frame.

~~(f) Section 506.3.10 "Grease duct enclosure" is amended by deleting the last sentence of exception 1 and adding the following sentence:~~

~~All duct wrap systems shall be in a concealed space.~~

~~(g)(f)~~ Section 603.6.1.1 "Duct length" is repealed and reenacted to read:

603.6.1.1 Duct length. Approved Class 0 and Class 1 flexible air duct shall not exceed seven feet in length.

~~(h)(g)~~ Section 603.6.2.1 "Connector length" is ~~deleted~~ modified to read limited in length to 7 feet (2134 mm).

~~(i)(h)~~ Section 606.3, "Installation" is amended by the addition of a new sentence to read:

Smoke detectors must be capable of being tested from a remote and readily accessible location.

10-9-3 Mechanical Permit Fees.

Mechanical permit fees are those prescribed by Subsection 4-20-13(c), B.R.C. 1981.

Chapter 10-9.5 Fuel Gas Code

Adopted by Ordinance No. 7304.

10-9.5-1 Legislative Intent.

The purpose of this chapter is to protect the public health and safety by regulating fuel gas systems and gas-fired appliances in the city. The city council hereby adopts the ~~2003~~2006 edition of the *International Fuel Gas Code* as a new Chapter 10-9.5 with certain amendments thereto found to be in the best interest of the city.

10-9.5-2 Adoption of the International Fuel Gas Code.

(a) The ~~2003~~2006 edition of the *International Fuel Gas Code* of the International Code Council is hereby adopted by reference as the City of Boulder Fuel Gas Code or fuel gas code and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) Except as specified below, Chapter 1 is repealed. This code shall be administered in accordance with Chapter 1, "Administration," of the International Building Code as adopted, with amendments, by Section 10-5-2, "Adoption of International Building Code with Modifications," B.R.C. 1981.

(1) SECTION 101, "GENERAL," is adopted as an administrative provision with the following amendments:

(a) 101.1, "Title," is amended to read:

101.1 Title. These regulations shall be known as the Fuel Gas Code of the City of Boulder or fuel gas code.

~~(b)~~ 2. SECTION 107, "INSPECTIONS AND TESTING," is adopted as an administrative provision.

(c) Exceptions 2, 3 and 4 in Section 303.3 "Prohibited locations" are repealed.

~~(d)~~ Section 404.4 Piping through foundation wall. is repealed and reenacted to read:

404.4 Piping through foundation wall. Gas piping shall enter the building above grade through the foundation wall, building or structure.

~~(d)~~ ~~(e)~~ Section 404.9 "Minimum burial depth" is repealed and reenacted to read:

404.9 Minimum burial depth. Underground piping systems shall be installed at a minimum depth of 12 inches below grade for metallic piping and a minimum depth of 18 inches for non-metallic piping or where such depths cannot be obtained, other equivalent protection must be provided.

~~(e)~~ ~~(f)~~ Section 404.9.1 is repealed.

~~(f)~~ (g) Section 406.4.1 "Test pressure" is repealed and reenacted to read:

The test pressure to be used shall be no less than 1-½ times the proposed maximum working pressure, but not less than 10 psig.

~~(g)~~ (h) Section 406.4.2 "Test duration" is repealed and reenacted to read:

Test duration shall not be less than 15 minutes.

~~(h)~~ (i) Section 602.1 "General" is amended by adding a new sentence to read:

Within a vented fireplace the damper must be removed or welded open and glass doors installed over the fireplace opening.

~~(i)~~ (j) Section 604 "VENTED GAS FIREPLACES" is amended by adding a new section to read:

604.3 Combustion air. Vented gas fireplaces shall be provided with outside combustion air and glass doors.

~~(j)~~ (k) Section 605 "VENTED GAS FIREPLACE HEATERS" is amended by adding a new section to read:

605.2 Vented gas fireplace heaters shall be provided with outside combustion air.

~~(k)~~ (l) Section 621.4 "Prohibited locations" is amended by adding a new sentence to read:

These appliances shall not be used in bedrooms or rooms readily used for sleeping purposes.

Chapter 10-10 Plumbing Code

Adopted by Ordinance no. 4636. Amended by Ordinance Nos. 4326, 4501.

10-10-1 Legislative Intent.

The purpose of this chapter is to protect the public health and safety by regulating the installation, alteration, and repair of plumbing devices in structures in the city. The city council hereby adopts the 2003-2006 edition of the *International Plumbing Code* with certain amendments and deletions thereto found to be in the best interests of the residents of the city.

10-10-2 Adoption of the International Plumbing Code with Modifications.

(a) The 2003-2006 edition of the *International Plumbing Code*, published by the International Code Council, including appendices C Gray Water Recycling Systems, and E Sizing of Water Piping System, is hereby adopted by reference as the City of Boulder Plumbing Code or plumbing code, and has the same force and effect as though fully set forth in this chapter, except as specifically amended by the provisions of this chapter.

(b) Except for Sections 101, 102, and 107, Chapter 1 is repealed. This code shall be administered in accordance with Chapter 1, "Administration," of the International Building Code as adopted, with amendments, by Section 10-5-2, "Adoption of International Building Code with Modifications," B.R.C. 1981.

(c) Section 101.1 is repealed and reenacted to read:

101.1 Title. These regulations shall be known as the Plumbing Code for the City of Boulder or plumbing code and will be referenced herein as "this code."

~~(d) The exception 2 in Section 101.2, "Scope," is repealed.~~

~~(e) (d)~~ Section 312.5, "Water supply system test," is amended by deleting the words "for piping systems other than plastic" in the first paragraph, and by modifying the test pressure required from 50 psi (344 kPa) to 100 psi (688 kPa).

~~(e)~~ Section 504.7.1 "Piping for safety pan drains shall be of those materials listed in Table 605.4." is repealed.

~~(f) Section 603.2, "Separation of water service and building sewer/drain," is repealed and reenacted to read:~~

~~603.2 Separation of water service and building sewer/drain. Water service pipe and the building sewer shall be separated in accordance with the City of Boulder Design and Construction Standards.~~

~~(g) (f)~~ Section 610, "Disinfection of potable water system," is repealed.

~~(h) (g)~~ Section 605.4 is amended by adding a new paragraph to read:

Water service line pipe between the water meter and building shall be Type K copper if it is in the public right-of-way, a public utility easement, or on other public property.

~~(i) (h)~~ Section 712.4.2, "Capacity," is amended by the addition of a new sentence to read:

Sewage pumps and sewage ejectors serving public fixtures shall be provided with dual pumps and ejectors arranged to operate independently in case of overload or failure.

~~(j) (i)~~ Section 1101.3, "Prohibited drainage," is repealed and reenacted to read:

No rain, surface, or subsurface water shall be connected to or discharged into any drainage system, unless first approved by the Administrative Authority.

~~(k) (j)~~ Section 1106.1, "General," is repealed and reenacted to read:

1106.1 General. The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers shall be based on the 100-year hourly rainfall rate of 2.5 inches per hour or other approved local weather data.

~~(l) (k)~~ Appendix C, Section C101, last sentence of exception is repealed and reenacted to read:

~~Such systems shall be designed as required by the Boulder County Health Department. Such systems that may impact public health in commercial and multiple residence projects shall be designed as required by the Boulder County Health Department.~~

~~(m) (l)~~ Table E103.3(2), "Load Values Assigned to Fixtures," is amended by the addition of a new sentence to read:

For the purpose of determining the largest instantaneous demand required in order to size a water meter, or for determining the amount of the plant investment fee, this table is repealed and replaced by the Fixture Unit/GPM Demand Chart and PIF Computation Sheet found at Appendix A to Chapter 11-1, "Water Utility," B.R.C. 1981.

(n)(m) Table E103.3(3), "Table for Estimating Demand," is amended by the addition of a new sentence to read:

For the purpose of determining the largest instantaneous demand required in order to size a water meter, or for determining the amount of the plant investment fee, this table is repealed and replaced by the Fixture Unit/GPM Demand Equations and PIF Computation Sheets found at Appendix A to Chapter 11-1, "Water Utility," B.R.C. 1981.

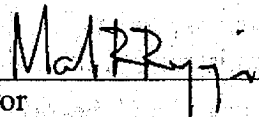
Section 2. This ordinance shall be effective at 12:01 a.m. on January 2, 2008. It shall be applied to building permit applications submitted after the effective date. Building permits applied for before the effective date shall be considered under the program in effect at the time of application.

Section 3. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern.

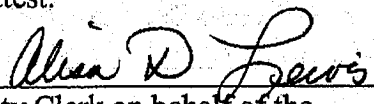
Section 4. The city council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY

TITLE ONLY this 16th day of October, 2007.


Mayor

Attest:


City Clerk on behalf of the
Director of Finance and Record

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED
PUBLISHED BY TITLE ONLY this 30th day of October, 2007.

Mal R. Ryan
Mayor

Attest:

Miss D. Lewis
City Clerk on behalf of the
Director of Finance and Record

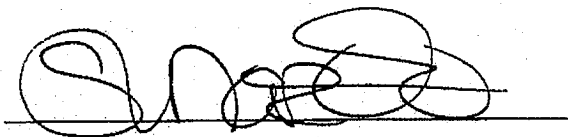
STATE OF COLORADO)
COUNTY OF BOULDER) SS:
CITY OF BOULDER)

ORDINANCE NO. 7566

I, Sandy North, Deputy City Clerk of said City in the County and State aforesaid, do hereby certify that the foregoing ordinance was introduced, read on first reading at the meeting of the City Council thereof held on the **16th** day of **October 2007**, and that I caused the same to be published (by title only) on the **19th** day of **October 2007** in the official paper of said city, and that said publication was made ten days before the passage of said ordinance.

I hereby certify that the foregoing ordinance was afterwards duly and regularly passed and adopted by the City Council of said City, on second reading at a meeting thereof held on the **30th** day of **October 2007**, and that I caused the same to be published (by title only) on the **2nd** day of **November 2007** in the official paper of said city.

WITNESS my hand and the seal of said City of Boulder hereto affixed, this **2nd** day of **November 2007**.



S.L. North
Deputy City Clerk

